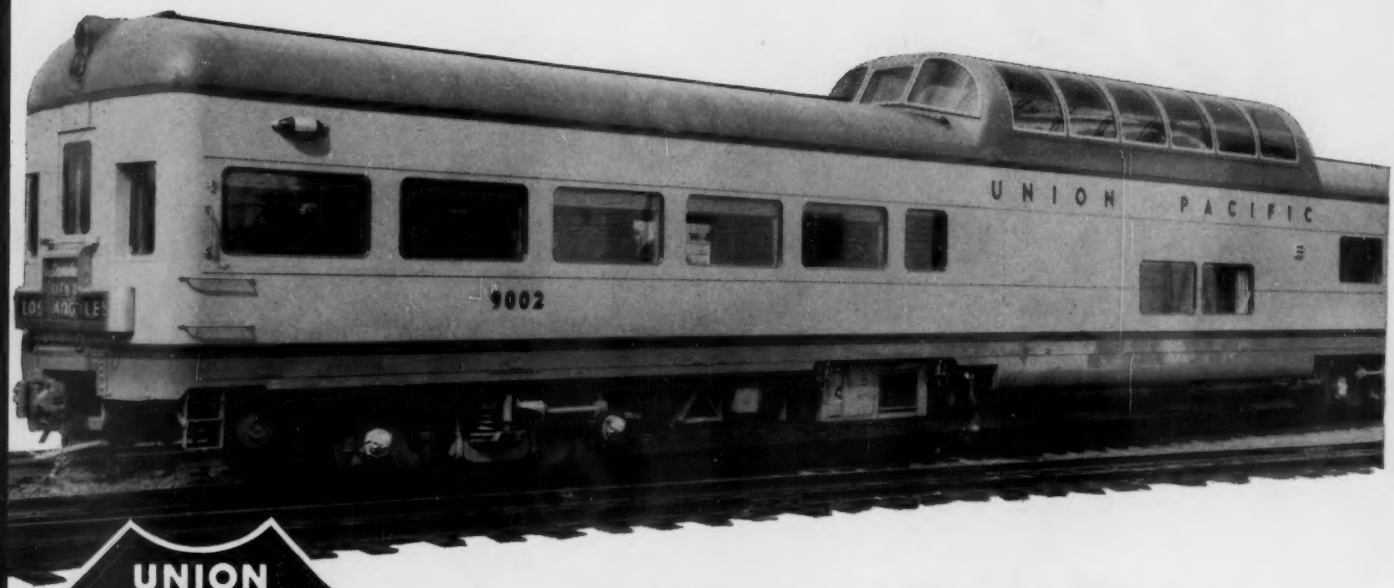
JANUARY 30, 1956 How Houston Yard Speeds Cars . . . p. 24

RAILWAY AGE

One of Five Simmons-Boardman Railway Publications



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USE CREOSOTE
New Yard at Hamlet
Southern Railway finds the answer with

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No wonder this Workbook of the Railways is the *Workbook of the Railway Suppliers*, too.

RAILWAY AGE | Workbook of the Railways

The Englewood radar gravity switching yard of the Southern Pacific Lines in Texas and Louisiana is well covered by radio communication. Two-way radio facilities between the engine foreman and his engine crew keep cars rolling into the bowl. Instantaneous instructions to "slow down" or "speed up" can be given to his engine crew without regard to visibility.

The yard master also has radio control of additional engines to keep the bowl "trimmed up." Radio is a big assist in getting cars in and out of the classification tracks.

Motorola radio is an old story to the Southern Pacific Lines in Texas and Louisiana. Years of satisfactory operation in other parts of the system led to Motorola as a natural choice when radio was required at Englewood.

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Motorola systems are built to deliver and keep on delivering unexcelled communications performance, due to their superior design and freedom from obsolescence, with low installation and maintenance cost—with interchangeable transmitters and receivers—with universal power provisions for 117 VAC, 12 and 64 VDC.

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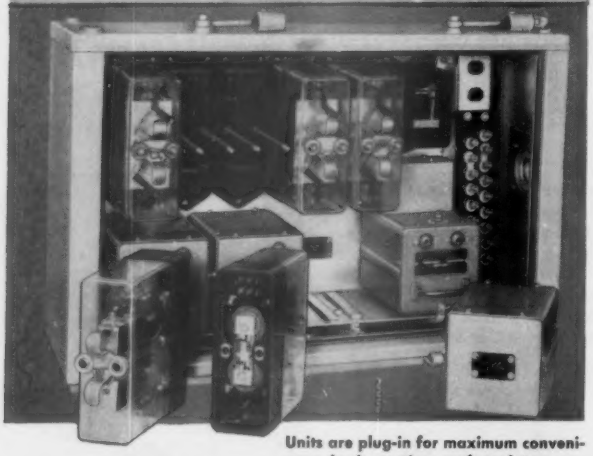

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UNION has developed a new and improved cab signal equipment designated as Type EL. It was designed to retain all the best features of the well-known Type E Coded Cab Signal Equipment and at the same time to reduce price, size and weight without sacrifice of reliability, safety and ease of maintenance. How well this has been accomplished is indicated by the fact that the equipment box, complete with all plug-in units, has been reduced in size by 53%, in weight by 47% and in price by approximately 30%.

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Vol. 140, No. 5
January 30, 1956

CONTENTS and Week at a Glance

New president of the New Haven is George Alpert, a Boston attorney. Mr. Alpert, a member of the road's board of directors, succeeds Patrick B. McGinnis, who, shortly after his resignation from the NH was accepted by that road's directors, was elected president and a director of the Boston & Maine. . . . 7

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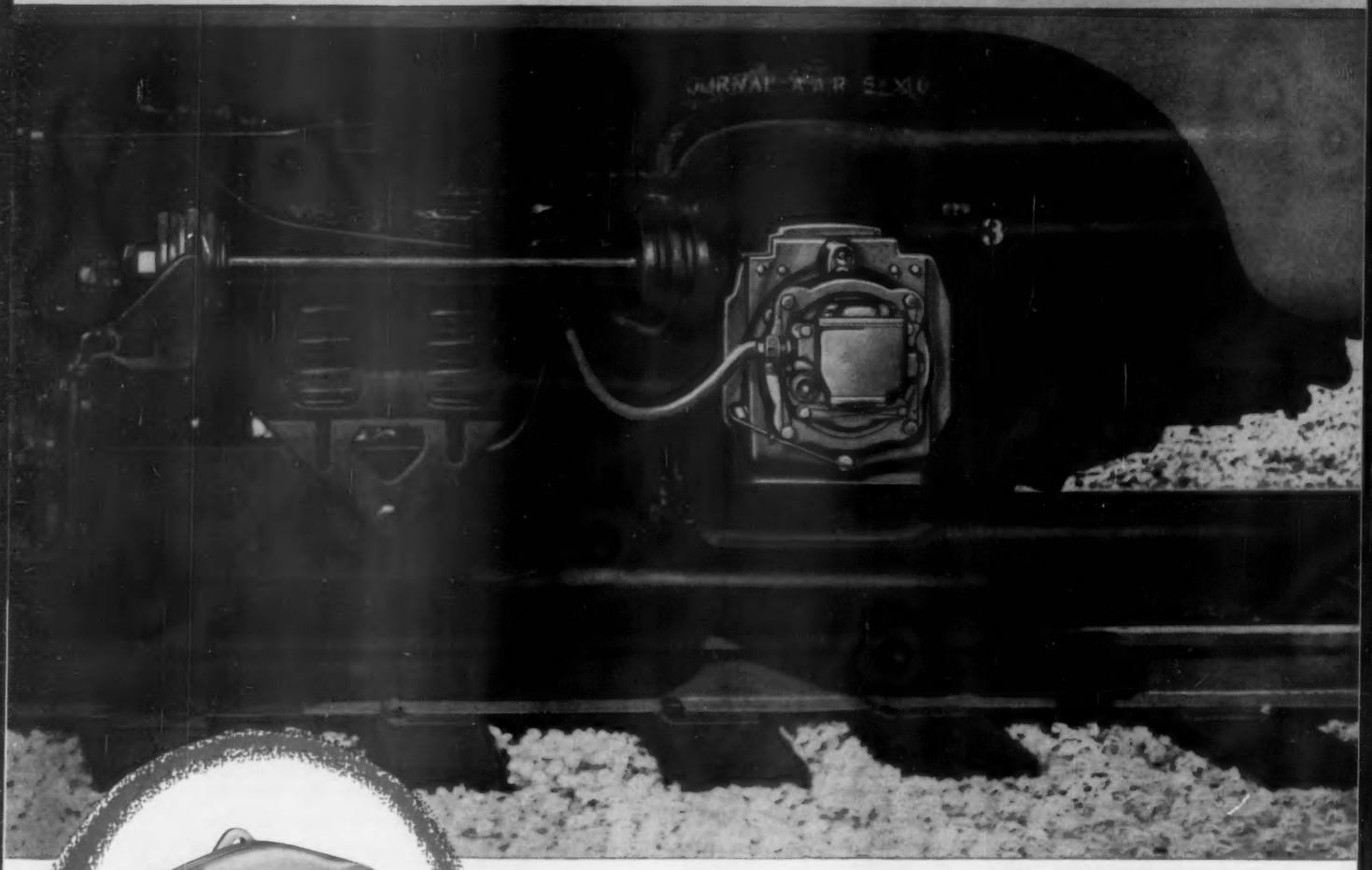
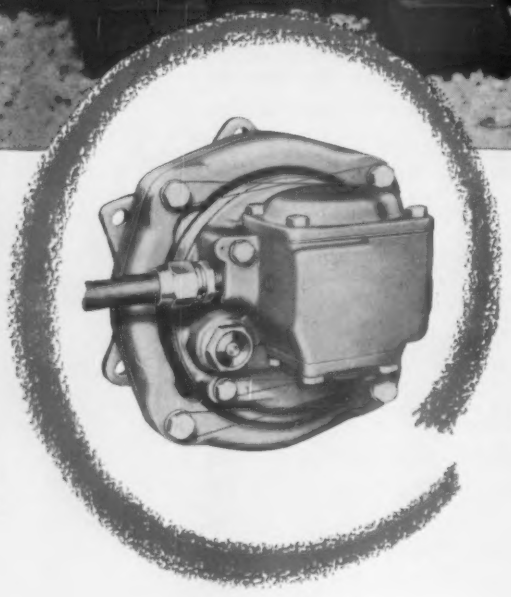
What's the difference between a SLIP and a SLIDE?





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Current Statistics

Operating revenues, eleven months	
1955	$9,248,147,540
1954	8,573,470,254
Operating expenses, eleven months	
1955	$6,951,141,263
1954	6,755,791,805
Taxes, eleven months	
1955	$1,017,788,031
1954	821,712,588
Net railway operating income, eleven months	
1955	$1,050,329,204
1954	766,016,100
Net income, estimated, eleven months	
1955	$ 830,000,000
1954	562,000,000
Average price 20 railroad stocks	
January 24, 1956	95.47
January 25, 1955	83.70
Carloadings revenue freight	
Two weeks, 1956	1,321,637
Two weeks, 1955	1,237,185
Average daily freight car surplus	
Wk. ended Jan. 21, 1956	5,686
Wk. ended Jan. 22, 1955	71,954
Average daily freight car shortage	
Wk. ended Jan. 21, 1956	3,670
Wk. ended Jan. 22, 1955	730
Freight cars on order	
January 1, 1956	147,320
January 1, 1955	15,317
Freight cars delivered	
Twelve months, 1955	36,896
Twelve months, 1954	35,558
Average number of railroad employees	
Mid-November 1955	1,077,086
Mid-November 1954	1,036,734

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BRIEFS

"Transportation law has fallen hopelessly behind the times," says IC President Wayne A. Johnston, with the result that railroads aren't allowed to make specific rates that will move traffic—and at the same time add to their earnings. That's one of the reasons, he recently told an Illinois Manufacturers Association meeting—the latest round of wage increases being another one—why the railroads have had to go to the ICC for a 7% general rate increase.

Assess the railroads for a new overpass in order to free city funds for a new parkway to the airport—that's a plan advanced by the city council and mayor of Denver. The railroad "share" of the overpass, located near Union Station, would total about $1.3 million. City funds already set aside for the overpass would then go to help build the parkway and relieve traffic congestion on the way to the city airport.

Your best defense against weeds on tough terrain... **Concentrated BORASCU®**

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Why have more roads chosen BORASCU Weed Killers than any other to end their weed hazards about timber structures, yards and sidings? Is it because of its safety and ease of application? True, the granular form makes hand-casting quick and easy wherever a man can walk. There is nothing to mix—no water to haul. It is nonpoisonous, nonflammable, and noncorrosive to ferrous metals.

But the initial low cost of BORASCU is important, too. Actually, *Concentrated* BORASCU furnishes a greater amount of plant-destroying ingredient than any other sodium borate herbicide—at lowest delivered cost—so the economy is great.

Yet we like to think BORASCU's popularity is due primarily to the dependable long-lasting results it so safely provides. For instance, the photo shows a weed-free condition after more than 18 months since being treated with *Concentrated* BORASCU!

Why don't *you* investigate this reliable weed-and-grass killer? Write today for descriptive literature. If after reading the details, you would like to see what *Concentrated* BORASCU can do, just say so. We'll arrange a demonstration for you on your road—under your conditions—without charge or obligation.

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Alpert Elected New Haven President

NH director succeeds Patrick B. McGinnis, who has been elected president and a director of the Boston & Maine

George Alpert, a Boston attorney and New Haven director, has been elected president of the NH to succeed Patrick B. McGinnis, who has been elected president and a director of the Boston & Maine. Mr. McGinnis, whose intention to resign as New Haven president was reported in last week's *Railway Age*, page 7, has sold his NH stockholdings.

Mr. McGinnis' resignation as NH chief executive was accepted "with regret," according to a statement by John E. Slater, chairman of the road's board. "We recognize," Mr. Slater said, "that he has been faced with a most difficult situation. The problems of improvement of service and maintenance of schedules have been with us for some time and we have been in the process of correcting the situation.

"To enable the standards of general performance of the railroad to be restored," Mr. Slater continued, "the board, upon recommendations of the operating staff has provided funds for obtaining a substantial number of locomotives, and authorized expenditures of additional funds for maintenance. . . . Mr. Alpert has agreed to carry forward fully and firmly the necessary program of improvement, which had already been in process. This plan, we are confident, will restore the New Haven in due course to its position as one of the finest lines in the country."

Mr. Slater added that "no other person has been approached or even considered for this post [NH president] by the board of directors."

Mr. Alpert graduated from Boston University in 1918. He enlisted in the Navy in World War I, served as seaman (2nd class), and was in the Harvard University ensign school at the war's end. Mr. Alpert, in addition to being a member of the NH board of directors, has been president of the Conveyancers Realty Company since 1942. He was active in founding Brandeis University and has been president of its board since 1946. His home is in Newton Centre, Mass.

"We will not varnish the truth," Mr. Alpert said after his election. "There are serious operational, maintenance and equipment problems. They cannot be explained out of existence but we are doing our best and will work them out. Some improvements are already evident. Others will take time and considerable effort."

A statement designed to clarify the legality of electing Mr. McGinnis president of the B&M was presented to that road's board of directors, before the election, by Herbert Alpert, a B&M director and its vice-president and general counsel, who is also brother of the New Haven's president. The statement said, in part:

"Just three months ago . . . stockholders of the B&M overwhelmingly elected Mr. McGinnis a director of this company and it was stated in the proxy statement of the special meeting that 'because of his position [with the New Haven] the candidacy of Mr. McGinnis as president and a director is subject to prior approval by the Interstate Commerce Commission.' Consequently, Mr. McGinnis has not entered upon his duties as a director of this company.

"Section 20a (12) in the Interstate Commerce Act provides 'it shall be unlawful for any person to hold the position of officer or director of more than one carrier unless such holding shall have been authorized by order of the commission.' The application of Mr. McGinnis for dual presidency of both the NH and the B&M was withdrawn January 12, 1956 [*Railway Age*, January 16, page 5]. . . Today . . . Mr. McGinnis' resignation as president and director of the New Haven was submitted and accepted. I now advise the directors of the B&M, as general counsel, that in my opinion there is not now any prohibition existing under section 20a (12) of the Interstate Commerce Act, or any other regulation of which I have knowledge, against Mr. McGinnis assuming his duties as a duly elected director and officer of the B&M."

ICC Chairman Anthony F. Arpaia, commenting on the B&M-NH executive changes, said the commission obviously wants the facts. It will check to determine whether there has been a divestment by Mr. McGinnis of his interests in the New Haven.

United Press photograph

PATRICK B. McGINNIS (right), who had just resigned as president of the New Haven, points to George Alpert, his successor as NH chief executive. John E. Slater (center), is NH chairman. A few hours after the photograph was taken, Mr. McGinnis was elected Boston & Maine president.

Senate Group Releases Record of Cross Hearing

The Senate Permanent Subcommittee on Investigations has made public the record of the closed hearing it held November 15, 1955, on activities of Hugh W. Cross, who was then chairman of the Interstate Commerce Commission. Mr. Cross resigned from the commission November 25, 1955.

The Senate subcommittee's inquiry was concerned with Mr. Cross' intervention in negotiations which gave Railroad Transfer, Inc., the contract covering transfer of passengers and baggage between railroad stations in Chicago. Transfer, headed by John L. Keeshin, last year supplanted Parmelee Transportation Company, which had held a like contract for 102 years.

The hearing record confirmed reports current at the time, i.e., that Mr. Cross had talked about the Chicago contract with presidents of some of the interested railroads, and that he had denied having considered taking a position with Transfer. It was

also brought out that the former commissioner had previously considered becoming associated with Mr. Keeshin as executive of a bus line; but Mr. Keeshin's plans for buying the line were not consummated.

Mr. Cross' testimony discussed his conversations with the railroad presidents (Paul E. Feucht of the North Western, Wayne A. Johnston of the Illinois Central, and Howard Simpson of the Baltimore & Ohio), and with Mr. Keeshin. His own appraisal of his activities was that they were "indiscreet." (*Railway Age*, December 5, 1955, page 15.)

Law & Regulation

Labor Opposes ICC Power Over Service Abandonments

The Railway Labor Executives' Association has advised Congressional committees on interstate and foreign commerce that it opposes giving the Interstate Commerce Commission power to override state commissions to permit abandonments of unprofitable intrastate rail services.

The advice came in letters giving RLEA's views on pending bills (S.1920 and H.R.6141) to implement recommendations of President Eisenhower's Advisory (Cabinet) Committee on Transport Policy and Organization. The service-abandonment proposal is one of the Cabinet Committee's recommendations, but railroad management is not pressing for its adoption.

Meanwhile, RLEA came out strongly for those Cabinet-Committee recommendations which comprise the so-called rate-freedom program. It said:

"We keenly recognize the need for . . . amending the present federal regulatory law to permit greater competition between the several modes of transportation in the field of rates and charges for transportation services."

Senate Group Gets ICC View on Justice Department

The Interstate Commerce Commission recently took advantage of an opportunity to express its views about activities and pronouncements of the Department of Justice with respect to transport matters subject to commission jurisdiction.

The department "is departing from the role of counsel" and "assuming the role of rival administrator," the commission said in a letter to the chairman of the Senate Select Committee on Small Business, who is Senator Sparkman, Democrat of Alabama. The committee recently held hearings in connection with its investigation of the administration of the Motor Carrier Act by the commission; and the letter was the commission's comment on testimony offered at the hearing by Stanley N. Barnes, assistant attorney general in charge of Justice's Antitrust Division.

On Confessing Error—The commission discussed first that part of Mr. Barnes' statement which noted that his department has "confessed error" and sided with parties challenging the commission in cases where the department did not agree with the commission order. It is this practice which prompted the commission to complain that it was confronted with a "rival administrator." Mr. Barnes also said that his department has been "remarkably successful" in sustaining its position in cases where it "confessed error."

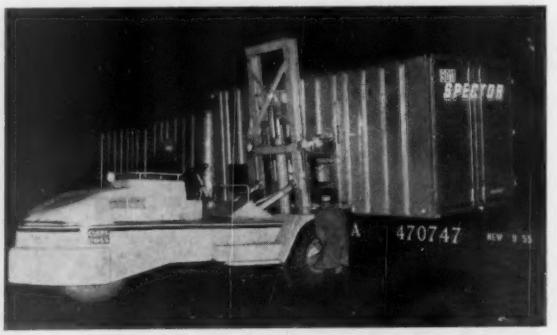
The commission suggested this was "not surprising," because the cause of a litigant (in this case itself) "may be damaged when counsel presumably aligned with it joins the other side in litigation." The commission added:

"We do not demand that attorneys of the Department of Justice stultify themselves by defending commission orders they sincerely believe to be clearly erroneous. However, we see nothing in the Interstate Commerce Act or in any other statute which justifies the department in such cases in actively joining parties challenging the commission's orders. . . . In doing so, the department . . . is undertaking, through the courts, to impose its independent views as to transportation policy. The department does not undertake such a role in litigation involving such agencies as the National Labor Relations Board."

Reed-Bulwinkle Act—The commission went on with a point-by-point answer to other issues raised by Mr. Barnes, including his contention that the Interstate Commerce Act's section 5a (the Reed-Bulwinkle Act) might discourage a small trucker from trying to compete with other truckers. The commission pointed out that the Reed-Bulwinkle Act increased regulation by tion the rate-making procedures of the bringing under commission jurisdic- carriers.

"Based on several years' experience," it added, "it is our opinion the Reed-Bulwinkle Act is sound law and should be preserved."

In closing, the commission said it believed the differing views of the de-



PENNSYLVANIA'S "TRUCTRAIN" SERVICE utilizes the new Mobilvan system of transportation developed by Clark Equipment Company. Aluminum van bodies without wheels —each 21 ft, six in. long, eight ft wide and eight ft high— are transported three to each special 75-ft flat car (left), in the PRR's fast, through service between Chicago and eastern points. Offering completely coordinated road and railway operations, each Mobilvan freight carrier in the service is designed to ride on a highway truck or trailer chassis as if it were the body. Instead of shipping an entire trailer, loaded Mobilvan bodies are lifted from the chassis by fork truck (right), on arrival at the "TrucTrain" terminal, quickly side-loaded on flat cars and locked into place with an automatic locking mechanism. Expense of hauling deadweight of chassis and wheels, and of tying up expensive trailers, is eliminated. The new service, which provides second-morning delivery, was worked out by the PRR and the Rail-Trailer Company on a scheduled basis with Spector Freight System. Fruehauf Trailer Company has been given exclusive manufacturing and distribution rights for the Clark Mobilvan system and is supplying the equipment to Spector.

partment and itself "spring from the fact that the commission, unlike the department, is charged by Congress with effectuating all of the objectives of the Interstate Commerce Act." It went on to assume, for example, that the department "is sincere in its view that it is protecting farmers from what it regards as the commission's unwise administration of the agricultural exemption from motor carrier regulation and the trip leasing rules." The letter then added:

"However, the commission believes the purposes of the act cannot be realized by approaching it solely from the point of view of a particular economic group. Rather, the task is one of fostering, under ever changing conditions, a transportation system adequate to the needs of every segment of the economy."

NIT League Favors Short "Rate-Freedom" Act

The National Industrial Traffic League is undertaking to have the heart of the "Cabinet Committee's" rate-freedom program embodied in a separate bill.

The "Cabinet Committee" is President Eisenhower's Advisory Committee on Transport Policy and Organization, and its recommendations are now before Congress on a "package" basis in House Bills 6141 and 6142 and Senate Bill 1920.

The league's proposal is that the Interstate Commerce Act be amended to incorporate the "three shall-nots." This would be accomplished by adding to the rate-making rules (section 15a and like sections of other parts of the act), identical provisos stipulating that "in determining a minimum rate, the commission shall not consider the effect of such rate on the traffic of any other mode of transportation, the relation of such rate to the rate of any other mode of transportation, or whether such rate is lower than necessary to meet the competition of any other mode of transportation."

Competitive Transport

President Would Continue To Help RR Competitors

President Eisenhower's budget for the fiscal year ending June 30, 1957, contemplates continued federal-government spending for highways and the promotion of aviation and water transportation.

Pending final determination of amounts to be proposed for the 40,000-mile Interstate Highway System, the budget proposed that regular federal-aid authorizations for highways be continued on an annual basis of $875

RAILWAY MARKET Outlook THIS WEEK

New Equipment

FREIGHT CARS

► *Pacific Fruit Express Co.*—Ordered 1,800 standard refrigerator cars and 200 mechanically refrigerated super-insulated cars, company shops; estimated cost $26,000,000; deliveries expected to start next December, be completed in July 1957.

► *Pennsylvania.*—Ordered 6,000 cars, Altoona, Pa., shops; included are 1,200 box cars, 1,300 gondola cars, 400 flat cars, 2,800 hopper cars, 300 covered hopper cars.

► *Union.*—Ordered 50 70-ton 65-ft gondola cars (approximate cost $10,200 each), and 500 50-ton hopper-car bodies (approximate unit cost $6,000), Greenville Steel Car; delivery of hopper-car bodies to begin next December; gondola cars to be delivered in third quarter 1956.

► *Union Tank Car Co.*—Ordered 1,260 tank cars of various capacities, company shops; included are 220 aluminum cars; delivery scheduled for fourth quarter 1956 and first quarter 1957.

LOCOMOTIVES

► *1955 Installations by Class I Roads.*—AAR reports new units put into service last year by Class I roads totaled 1,182 (1,172 diesel-electrics, 10 electrics), compared with 1,113 (1,097 diesel-electrics, 15 gas turbine-electrics, one steam turbine-electric), in 1954; December 1955 installations, all diesel-electric, totaled 157—largest number installed in any month since March 1954— compared with December 1954 installations of 89 diesel-electrics and one steam turbine-electric; 854 new units were on order January 1 by Class I roads, including 827 diesel-electrics, 15 gas turbine-electrics, 12 electrics, compared with 492 units on order January 1, 1955, which included 483 diesel-electrics, 10 electrics.

PASSENGER CARS

► *Chicago & North Western.*—Ordered 16 more 161-passenger double-deck suburban cars, Pullman-Standard; estimated cost $2,320,000; delivery expected to start next August.

► *Southern Pacific.*—Ordered 21 double-deck 145-passenger commuter coaches, ACF Industries; cost will exceed $3,250,000.

MARINE

► *Baltimore & Ohio.*—Ordered six car floats, each with two tracks and covered platform, Bethlehem Steel, Staten Island, N.Y., yard.

New Facilities

► *Chesapeake & Ohio.*—Northern region has ordered equipment from General Railway Signal Company for installation of 60 miles

RAILWAYS IN THE MARKET—THIS WEEK

CONTINUED

of centralized traffic control between Plymouth and Mt. Morris, Mich.

► *Illinois Central.*—Ordered equipment from General Railway Signal Company for installation of remote control at 51st street, Chicago.

► *Northern Pacific.*—Ordered equipment from General Railway Signal Company for installation of an NX all-relay interlocking at Pasco, Wash.

► *Pennsylvania.*—Applied for ICC authority to build a 12-mile line from Krebs Run, Ohio, to Hannibal, to serve a plant of Olin Mathieson Chemical Corporation.

► *Reading.*—Approximately $1,000,000 will be spent to improve Port Richmond at Philadelphia as part of overall modernization program designed to meet area's expanding industrial growth; three gantry cranes, each capable of lifting 50 tons, will be installed on south side of Pier G at Port Richmond to meet need for additional facilities capable of heavy lifts, particularly of scrap iron and heavy steel.

million. Meanwhile, the President said, in the budget message, that completion of the interstate system "is even more urgently needed today" than it was a year ago when he made it the subject of a special message to Congress. He also said the program "should be soundly financed so as not to create budget deficits."

Air Transport—Reporting on what his Administration plans for the promotion of aviation, the President said total expenditures of the Civil Aeronautics Administration will rise by $50 million to an estimated $200 million in 1957. In addition, that part of the government's payments to commercial airlines which is identified as subsidy is expected to total $34 million, $24 million below the amount so identified in the 1955 fiscal year.

As to promotion of water transportation, the President reported that the budget included funds for starting 41 new navigation projects. Funds are also proposed for continuation of work on 61 projects already under way.

For the ICC, the budget proposed a fiscal 1957 appropriation of $14,000,000. That would give the commission a net of $1,104,000 more than it got for the current fiscal year ending June 30, 1956. The actual increase would be $1,879,000, but $775,000 of it would be applied to mandatory salary increases for the commission's staff.

Again, the budget proposes that the commission's appropriation be on a lump-sum basis, with no amounts earmarked for railroad safety and locomotive inspection work. That was proposed last year, but Congress nevertheless earmarked specific amounts for those activities. Labor unions representing railroad employees protested the lumping.

New England Truckers Get 6% Rate Increase

Truckers serving New England territory have been ordered by the Interstate Commerce Commission to increase their rates by 6%.

The commission's action was a minimum rate order based on its findings that an increase of less than 6% would leave the truck rates on less than a reasonable minimum basis. This indefinite freeze was more than the truckers sought. They asked only for a "stabilization" order requiring that the 6% increase be made and then maintained for "at least 90 days."

The minimum-rate order drew from Commissioner Freas a dissenting-in-part expression to which Commissioners Elliott and Murphy subscribed. They considered the proposed 90-day stabilization order superior to the indefinite freeze, if any such order were to be issued. At the same time they questioned whether the record justified the prescription of minimum rates by either method.

The case was No. MC-C-1864, the rate-increase petition having been filed by the New England Motor Freight Bureau on behalf of 800 common-carrier truckers which are its members. Like the railroads' pending 7% case, the petition was based on increased wages and other costs incurred by the truckers last year.

Figures of the Week

Freight Car Loadings

Loadings of revenue freight in the week ended January 21 totaled 699,286 cars, the Association of American Railroads announced January 26. This was a decrease of 11,052 cars, or 1.6%, compared with the previous week; an increase of 68,935 cars, or 10.9%, compared with the corresponding week last year; and an increase of 82,073 cars, or 13.3%, compared with the equivalent 1954 week.

Loadings of revenue freight for the week ended January 14 totaled 710,338 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, January 14

District	1956	1955	1954
Eastern	121,685	108,372	109,106
Alleghany	140,626	116,473	116,042
Pocahontas	61,154	50,639	45,218
Southern	131,537	121,608	117,091
Northwestern	78,584	76,230	70,129
Central Western	118,743	112,914	106,952
Southwestern	58,009	53,597	55,333
Total Western Districts	255,336	242,741	232,414
Total All Roads	710,338	639,833	619,871
Commodities:			
Grain and grain products	50,998	51,164	45,611
Livestock	9,928	10,090	9,220
Coal	150,177	123,171	121,336
Coke	14,074	10,031	10,190
Forest Products	45,258	42,156	38,893
Ore	18,074	14,918	15,577
Merchandise l.c.l.	58,150	58,028	58,446
Miscellaneous	363,679	330,275	320,598
January 14	710,338	639,833	619,871
January 7	611,299	597,352	624,229
December 31	574,663	529,386	477,805
December 24	672,355	561,195	480,978
December 17	714,588	641,879	618,434
Cumulative total, 2 weeks	1,321,637	1,237,185	1,244,100

In Canada.—Carloadings for the seven-day period ended January 7 totaled 62,844 cars, compared with 81,877 cars for the previous ten-day period, according to the Dominion Bureau of Statistics.

	Loaded Revenue Cars	Connections Total Cars Rec'd from
Totals for Canada:		
January 7, 1956	62,844	30,239
January 7, 1955	58,756	26,822

Rails Share of National Income Still Dropping

Revenues of the railroads amounted to only 3.2% of national income in 1954, compared with 5.6% in 1939. Meanwhile, the like ratio for domestic scheduled air lines rose from 0.1% to 0.3%, and that of truckers was up from 1.1% to 1.6%.

This relative loss of the railroad industry to its competitors was pointed up in the latest issue of "Transport Economics," publication of the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission.

The ratios also showed that bus operators and pipe lines held their own, both having 1939 and 1954

revenues equivalent to 0.2% of national income.

Relative Growth—On the basis of 1939 as 100, the national-income index for 1954 was 411.9. The index of railroad revenues was only 239.7. In the same period, the index of air line revenues rose more than four times as rapidly as national income—to a 1954 index figure of 1,865.5.

While railroad revenues moved at the slowest relative pace, the revenues of the truckers were the only others which moved up faster than national income. The 1954 index of truck revenues was 598.

Some Contract Truckers Have Many Contracts

Class I contract truckers reporting to the Interstate Commerce Commission in 1954 then had anywhere from one to 100 contracts.

This was shown by a compilation in "Transport Economics," monthly review published by the commission's Bureau of Transport Economics and Statistics.

The commission received reports for 1954 from 242 contract truckers, 31 of which had more than 20 contracts. Nineteen of these 31 had 30 or more contracts, that group including one with 100 and one with 69. Seventy-two truckers had only one contract, and a like number had from two to five. Forty-three were in the six-to-10 contracts group, and 24 in the 11-to-20 group.

"The data," the bureau said, "are subject to certain limitations, i.e., the contracts reported are only those in effect at the close of the year, and the possibility that carriers have not treated uniformly the matter of excluding contracts for intrastate service. It is evident, of course, that the contracts, even of a given carrier, may involve very dissimilar tonnages or revenues."

Unions Seeking 15% Increase in Pensions

The Railway Labor Executives Association has decided to seek, from this session of Congress, legislation to increase benefits under the Railroad Retirement Act by 15%.

Various bills to liberalize the act's benefit provisions are pending in the Senate and House. A House Interstate and Foreign Commerce subcommitee held hearings last week to receive presentations from sponsors of the House bills.

Management Speaks

Brown Urges Key Role For Public Relations

Monon President Warren W. Brown made an appeal before the Syracuse Traffic Club January 19 to give railroad public relations departments more effective voices "in the formulation, timing and presentation of company policy."

Referring to "this present freight rate case as an example of how not to handle public relations," Mr. Brown resolved to increase the importance of public relations on the Monon in 1956.

Railroad public relations people "must have thought themselves set back quite a bit" following their efforts in behalf of the Cabinet Report, he said, "when they saw the short space of time between the decision to ask for an increase in rates and the intended effective date." Even granting the need for the increase, Mr. Brown asserted, "the public relations aspects of the whole thing were almost completely ignored."

But, he went on, it was in line with railway public relations methods. When industry administers castor oil [higher prices], he said, it tries to sweeten it up for public consumption. "When a railroad administers a dose of castor oil their public relations people are told to cover the stuff with arsenic to kill the taste," the Monon chief declared.

At other points in his talk Mr. Brown called 1955 "a year of indecision" among railroads and urged them to decide unanimously whether they are going to support Cabinet Report legislation in 1956.

He also called for greater encouragement to bring young people into the industry, creation of higher standards of research, and a policy of competing against other modes of transportation rather than railroad-against-railroad.

Photograph courtesy Swedish State Railways

ELECTRIC LOCOMOTIVES of this type will be used on main lines of the Swedish Railways. Built in Sweden, the locomotives develop 3,300 hp and weigh 67.9 tons, or 41 lb per hp. Motors weigh 5.9 lb per hp. The locomotive, capable of a speed of 93 mph, has reduced running time between Gothenburg and Stockholm (285 miles), to 4½ hours.

CNR's Gordon Proposes Rate-Control Plan

Departure from the "just and reasonable" requirements of transport regulation and emphasis on distinctions between competitive and non-competitive traffic are basic elements in a rate-control plan proposed by Canadian National President Donald Gordon.

Addressing the Royal Commission on Canada's Economic Prospects at Montreal, January 19, Mr. Gordon said "railways should be given freedom to set rates based on ordinary commercial principles of pricing, subject to the requirement that the rates must be remunerative" and be made public.

Concepts of "just and reasonable" rates do not apply, he said, in truly competitive situations "unless one is prepared to define a competitive rate as being 'reasonable' when it attracts business, and as being 'just' when it recoups at least the out-of-pocket costs."

"A vital distinction" must be made, Mr. Gordon went on, between traffic essentially tied to rails and that which involves truck competition. To compete effectively, he said, railroad management "must have discretionary power" to fix prices and determine the types

of service to be offered, hampered by a "minimum degree of regulation."

Mr. Gordon said regulation retains its original justification—that of controlling a monopoly situation—where traffic is tied to rails. Here, he said, regulation must insure "an equitable distribution of the railways' common and overhead expenses" among all shippers.

As to how a regulatory body would differentiate between competitive and non-competitive situations, Mr. Gordon's proposal would apply ratemaking freedom generally, leaving it to shippers to show they were dependent on railroads alone for transportation and, through complaint, seek "statutory rates and exceptions."

Mr. Gordon also told the commission he feels completion of the St. Lawrence Seaway will cause only a "temporary dip" in the CNR's increasing business, with the immediate affect of taking bulk traffic and some package tonnage from railroads in the Great Lakes-St. Lawrence area.

Commenting on commuter lines, he said the CNR will provide additional service to communities that want it if they will underwrite the road's losses in providing the service.

Rates & Fares

Coal Won't Get Separate Hearing on Rate Increase

The Interstate Commerce Commission has denied petitions for a separate hearing on the railroads' 7% rate increase proposal insofar as it would apply to coal and coke.

The petitions were filed by the National Coal Association, American Coke & Coal Chemicals Institute, and the Anthracite Institute. The commission denied them in a January 13 order in the case—Ex Parte 196.

Freight forwarders have filed tariffs proposing a 7% increase effective the same day as the railroad hike—February 25. A verified statement in support of the proposal was filed by Giles Morrow, president and general counsel of the Freight Forwarders Institute.

Pullman to Test Lower Rates in the West

The Pullman Company will experiment with reduced rates for certain types of sleeping accomodations west of Chicago, St. Louis, Memphis, Tenn., and New Orleans, from February 1 through April 30. Permission for testing the lower rates has been granted by the Interstate Commerce Commission.

The period during which the experiment will be conducted "is that when Pullman business in the territory to be embraced is traditionally at off-season levels," Justin J. Nolan, vice-president in charge of traffic, said. He added that it is the view of passenger traffic officers of both Pullman and the railroads participating in the test that the cut rates will have special appeal to family travel.

Principal reductions provided for in the experiment are a flat 10% for lower berths, 40% for upper berths, 14% for single-occupancy and 25% for double-occupancy sections, 4½% for duplex roomettes, 21% for single-occupancy and 31% for double-occupancy roomettes, and 15% for single-occupancy and 21% for double-occupancy compartments. Reduced rates for compartments put them on a par with those for bedrooms. Present rates for bedrooms and drawing rooms will be unchanged.

The reduced rates will apply through the major portion of western territory. They will not apply locally between Chicago and St. Louis; between Chicago or St. Louis and Omaha, Lincoln, Kansas City, St. Paul or Minneapolis; between Chicago and Hot Springs, Ark.; between New Orleans and Houston; between Pacific Coast cities, or to and from the Pacific Northwest via St. Paul and Minneapolis.

WESTROADS RAIL TRAVEL CENTER (above), is one of the few railroad-owned ticket offices in a department store. The Baltimore & Ohio; Frisco; Gulf, Mobile & Ohio; Missouri Pacific; New York Central; Pennsylvania, and Wabash use this office, which is in the new Stix, Baer & Fuller department store in suburban St. Louis.

Education

SP Plans College Study For Qualified Employes

The Southern Pacific will enlarge its employee and officer training program to provide college training for a substantial number of the road's personnel. The program has been worked out with various colleges and universities along SP lines.

D. J. Russell, SP president, said the college program would involve one semester of class in some cases, one-month short summer courses in others, and, in a few cases, one year of training. The one-semester course, he explained, will serve to broaden the background and experience of younger employees. The one-year courses are for those who have not completed all their work toward a college degree. The one-month courses offer specialized training in problems of transportation management and are designed for the higher level of "middle" management.

"We think this educational program is a sound investment in the future of our company," Mr. Russell said. "We are happy, of course, to be able to give more education to some of our people, but the primary purpose also represents a hard-headed business effort. We are striving to get more college-trained men to come into the railroad, but the men we are sending to college now have given tangible evidence they intend to make railroading a career.'

A group of 31 SP employees already has been enrolled in eight colleges and universities. The men will take a regular college course designed to broaden their understanding of our

society and its institutions. The SP is seeking a liberal education for the men, Mr. Russell said, rather than technical training for specific positions. The SP will pay all expenses and will continue salaries for those attending college.

NP Initiates Electronics Correspondence Course

Northern Pacific communications department personnel may now enroll in a correspondence course in electronics and electricity. An enrollment of more than 100 is expected to take the 18-months' course offered free to employees.

According to D. C. Hill, superintendent of communications, who is directing the course, it has been set up to help train company personnel to service the railway's communications facilities. On-the-job instruction by supervisory officers will also be carried out in conjunction with the correspondence lessons.

This is the Northern Pacific's third correspondence course. Last year 1,500 employees completed a course in railway freight traffic, and 1,200 studied transportation.

Financial

Four Roads Consider Merger

Great Northern and Northern Pacific initiate preliminary studies which would include CB&Q and SP&S

The Great Northern and the Northern Pacific have announced that "a joint exploratory study" will be undertaken to determine whether unification of the GN, the NP, the Spokane, Portland & Seattle, the Chicago, Burlington & Quincy—and the Burlington's subsidiaries, Colorado & Southern and Fort Worth & Denver—would be "advantageous and in the public interest."

Some 27,000 miles of railroad in 19 states and two Canadian provinces are operated by the four systems. Together they produced operating revenues of approximately $732 million in 1955.

If preliminary studies show unification would be advantageous and in the public interest, steps will be taken to implement it, the joint announcement said. Any plan agreed on for submission to stockholders and the ICC would contemplate gradual operating integration of the properties over several years. Federal statutes and labor agreement provide the basis for taking care of employees displaced by unification, the announcement pointed out.

Preliminary studies have been delegated by GN and NP directors to special committees. John M. Budd, GN president, will serve as chairman of the GN committee, and Robert S. Macfarlane, NP president, will be chairman of the NP committee. Harry C. Murphy, Burlington president, will be a member of the joint committee.

Since 1901 the GN and NP have been joint owners of 97.18% of the Burlington's common stock. The two roads also jointly own the SP&S.

An application for permission to unify the NP and GN was made to the ICC as long ago as July 1927. On February 11, 1930, the commission gave its approval on condition that the two roads relinquish joint ownership of the Burlington. Following study of the commission's decision, the roads announced on January 10, 1931, that they were abandoning the unification proposal.

Heineman Group Claims Large C&NW Stockholdings

The Chicago & North Western announced last week it had been informally advised by Ben W. Heineman, chairman of the executive committee of the Minneapolis & St. Louis, that he and his associates now own a substantial amount of C&NW stock.

Mr. Heineman informed Harry L. Wells, chairman of the C&NW finance committee, and J. E. Goodwin, acting executive officer, of the stockholdings. The C&NW announcement said Mr. Heineman "did not make any claims that he and his associates have control of the property." This matter, the announcement continued, "will undoubtedly be discussed at the next regular C&NW board meeting February 10."

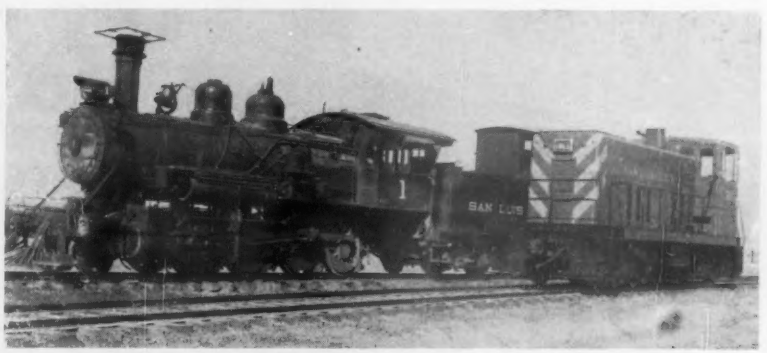
Mr. Heineman told *Railway Age* he had "no comment" at this time on the C&NW announcement. He said a "detailed statement" may be made after the February 10 C&NW board meeting.

Bangor & Aroostook.—*Stock Issue.*—BAR directors have approved sale of 29,671 additional shares of common stock, subject to ICC approval, and reduction of the par value of the stock from $50 to $1 a share, in connection with a refunding plan involving issuance of $8,000,000 of bonds (*Railway Age*, December 26, 1955, page 16).

New York Central.—*B&A Exchange Offer Reopened.*—The New York Central has announced it will reopen, with ICC approval, its exchange offer of $150 of 6% collateral trust bonds for each share of Boston & Albany stock. The NYC reported that holders of 189,857 shares, of 250,000 outstanding, accepted the offer when it was originally offered (*Railway Age*, March 28, 1955, page 41). Also to be reopened, the NYC announced, is its offer of $125 of 5¾% collateral trust bonds for each of 7,500 shares of Ware River stock. Holders of 5,006 WR shares were reported to have accepted the original offer.

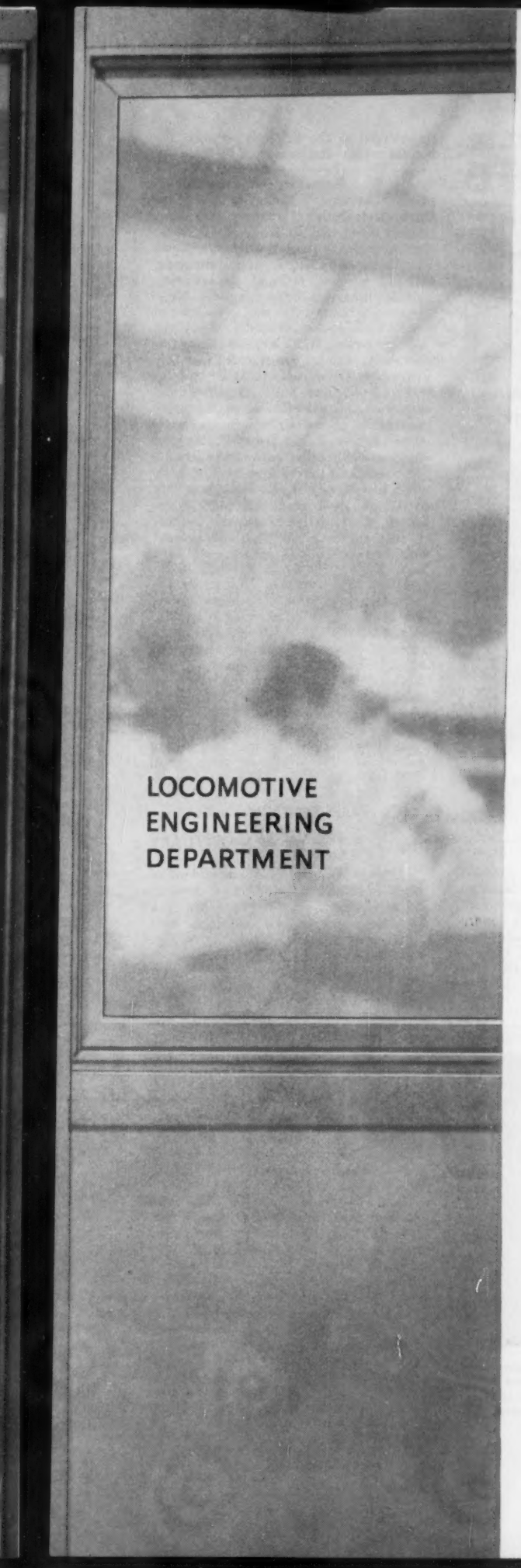
Southern.—*Stock Split Proposed.*—Directors have voted to submit a proposal for a 2½-for-one split in the common and preferred stocks to shareholders at the annual meeting next May. Each present share of $50-par preferred would be replaced by 2½ shares of $20-par preferred, and additional shares of no-par common stock would be issued. The board also de-

(Continued on page 16)



RISING MAINTENANCE COSTS prompted the San Luis Central to retire its 40-year-old steam locomotive (that's it on the left) and replace it with a new 70-ton General Electric diesel-electric (the one on the right), for service on its 12-mile line between Monte Vista, Colo., and Center. What with the SLC using only one locomotive it now is "100% dieselized."

Mr. V. H. Peterson, Vice President,
Railroad Division,
Fairbanks, Morse & Co.



"Come on in... history is made here"

Behind this door is the very heart of Fairbanks-Morse's pioneering of modern motive power design—the very heart of healthy competition. Over the past decade, both have benefited the railroad industry as a whole.

For example, these engineering facilities made possible the introduction and assured the top performance of these motive power First's by Fairbanks-Morse:

FIRST 2000 horsepower road locomotive
FIRST 2000 horsepower road switcher
FIRST 2400 horsepower passenger unit, the "Consolidation Line"
FIRST 2400 horsepower six-motor multi-service road unit, the "Train Master"—and now, the "Speed Merchant"—America's new high-speed, lightweight locomotive designed to put profit back in passenger service.

Each of these F-M First's was a trend-maker towards higher horsepower per motive power unit. Railroad management has been quick to realize the operating and maintenance advantages of F-M design that packs more horsepower into fewer units to inspect, service and maintain.

This trend has been followed by other locomotive builders *—to the benefit of the railroad industry as a whole.*

Pioneering the future . . . improving the present. These are the continuing goals at Fairbanks-Morse. They stimulate a type of healthy competition from which the entire industry benefits. Fairbanks, Morse & Co., Chicago 5, Illinois.

FAIRBANKS-MORSE
a name worth remembering when you want the BEST

DIESEL LOCOMOTIVES AND ENGINES • RAIL CARS AND RAILROAD EQUIPMENT • ELECTRICAL MACHINERY • PUMPS • SCALES • WATER SERVICE EQUIPMENT • MAGNETOS

(Continued from page 13)
clared an extra dividend of $2, payable February 15, and a quarterly dividend of $1, payable March 15, on the common stock.

Applications

CHESAPEAKE & OHIO.—To assume liability for $4,800,000 of equipment trust certificates, first installment of a proposed $9,600,000 issue, which would finance in part the acquisition of 62 diesel-electric road-switching locomotive units. Forty of 1,750 hp each would be acquired from the Electro-Motive Division of General Motors Corporation at an estimated unit cost of $180,343. The other 22 would be purchased from Alco Products, Inc.—12 of 2,400 hp at $234,008 each, and 10 of 1,800 hp at $212,663. The certificates, dated February 20, would mature in 15 annual installments of $320,000 each, beginning February 20, 1957.

CHICAGO & NORTH WESTERN.—To assume liability for $3,900,000 of equipment trust certificates, the second installment of a proposed $11,700,000 issue, the whole of which would finance in part acquisition of 1,575 box cars and 500 gondola cars (*Railway Age*, November 7, 1955, page 40). The certificates, dated November 1, 1955, would mature in 15 annual installments of $260,000 each, beginning November 1, 1956. They would be sold by competitive bids which would fix the interest rate.

CHICAGO, BURLINGTON & QUINCY.—To assume liability for $7,800,000 of equipment trust certificates to finance in part the acquisition of equipment, listed below, which is expected to cost a total of $9,781,950.

	Description and Builder	Estimated Unit Cost
350	50-ft. box cars (Burlington shops)	$ 6,825
50	60-ft. flat cars (Burlington shops)	5,700
9	bedroom-roomette cars (The Budd Company)	241,575
5	50-passenger coaches (Budd)	178,855
4	40-passenger sleeping coaches (Budd)	257,125
2	70-passenger dome cars (Budd)	293,325
2	coffee shop-dormitory cars (Budd)	345,575
2	dining cars (Budd)	246,725
2	bedroom-compartment cars (Budd)	284,075
2	parlor-observation cars (Budd)	335,925

The certificates, dated February 1, would mature in 30 semi-annual installments of $260,000 each, beginning August 1. They would be sold by competitive bids which would fix the interest rate.

MAINE CENTRAL.—To issue and sell, without competitive bidding, $1,300,000 of income promissory notes. The application said the notes should be marketable on a basis not in excess of 5¼%. Proceeds would be used to redeem 13,385 shares of 6% prior preference stock on April 1, with resultant annual savings of $10,050. The applicant also has outstanding a 30,000-share issue of 5% preferred stock on which cumulated unpaid dividends total $76.25 a share. Retirement of the prior preference stock would be part of a plan for elimination of these cumulations.

NORTHERN PACIFIC.—To assume liability for $6,060,000 of equipment trust certificates to finance in part the acquisition of 44 diesel-electric locomotive units from the Electro-Motive Division of General Motors Corporation. The estimated total cost of the units, which are listed below, is $7,586,197.

	Description	Estimated Unit Cost
15	1,750-hp road switchers	$170,534
2	1,750-hp road switchers	180,631
5	7,000-hp four-unit	735,785
1	5,250-hp three-unit	516,000
4	1,200-hp. switchers	118,000

The certificates, dated February 16, would mature in 15 annual installments of $404,000 each, beginning February 16, 1957. They would be sold by competitive bids which would fix the interest rate.

Dividends Declared

ATLANTIC COAST LINE.—50¢, quarterly, payable March 12 to holders of record February 7.

CHESAPEAKE & OHIO.—common, 87½¢, quarterly, payable March 20 to holders of record March 1; 3½% convertible preferred, 87½¢, payable May 1 to holders of record April 6.

GREEN BAY & WESTERN.—common, $5, payable February 8 to holders of record January 27.

LOUISVILLE & NASHVILLE.—$1.25, quarterly, payable March 12 to holders of record February 1.

MICHIGAN CENTRAL.—$25, semiannual, payable January 31 to holders of record January 20.

NEW YORK, CHICAGO & ST. LOUIS.—increased quarterly, 90¢, payable April 2 to holders of record February 24.

SOUTHERN.—common, $2, extra, payable February 15; common, $1, quarterly, payable March 15.

WESTERN PACIFIC.—75¢, quarterly, payable February 15 to holders of record February 1.

Operations

Santa Fe Two-Car Train Overturns in Los Angeles

Twenty-nine persons were killed and 153 injured January 22 when a Santa Fe two-car RDC train, en route from Los Angeles to San Diego, overturned four miles from Los Angeles Union Station.

"All indications are that the accident was caused by excess speed approaching a 10-deg. curve," Fred Gurley, president of the Santa Fe, said.

A pair of automatic speed recorder tapes on board the train at the time of the accident were reported to have shown it was traveling at nearly 70 mph when it overturned. The RDC's were equipped with dead-man control and carried a full crew, including an engineer and a fireman in the cab.

Supply Trade

Palmer Bayer, research director, **Rail-Trailer Company,** has been appointed assistant to the president. **Kenneth E. Ketzel,** formerly general manager of **Clark Mobilvan Corporation,** has been named director of sales, and **Robert Budorick,** assistant to research director, has been transferred to the sales department to handle traffic and research.

HENRY WENK, vice-president and sales executive of A. J. Gerrard & Co., who has been placed on special assignment as railway sales manager.

J. W. Kenefic, superintendent railroad service, western region, **Air Reduction Sales Company,** at Chicago, has retired. **R. L. Rex,** superintendent railroad service, eastern region, has been appointed superintendent railroad service, railroad department, his headquarters remaining in New York.

Ellsworth B. Carpenter, vice-president, sales, **American Car & Foundry Division** of **ACF Industries, Inc.,** has been appointed to supervise and direct sales in the eastern region of the United States, with office in New York. **John E. Angst,** vice-president, sales, will supervise and direct sales in the western region, with office in Chicago. **J. R. Peterson** has been appointed manager, market research of the division. He was formerly assistant to president of **Shippers' Car Line,** ACF subsidiary.

Dana T. Hughes, director of information of **Alco Products, Inc.,** has been appointed director of public relations. **Roger C. Witherell,** who recently joined the company, has been appointed manager, news bureau, and **Arthur A. Batts, Jr.,** director of market research, has been named director of advertising and marketing research. **Joseph W. S. Davis,** district manager of spring and forge sales, has been appointed manager of field sales for spring and forge products.

OBITUARY

Ernest W. Beck, 68, president of Beck & Blatchford, Inc., died January 20 at Chicago.

Organizations

The **Transportation Club of the Rochester, N.Y. Chamber of Commerce** will hold its 32nd annual dinner in the Chamber of Commerce banquet hall, at 6:30 p.m., February 9. Guest speaker—Miss Beatrice Aitchison, director, transportation research, Post Office Department bureau of transportation.

Annual dinner of the **Traffic and Transportation Association of Pittsburgh,** Pa., will be held in the William Penn Hotel, February 23.

The scheduled February 23 meeting of the **Metropolitan Maintenance of Way Club** has been postponed to March 1, at 8:30 p.m., in the Railroad-Machinery Club, New York. The program will consist of an open forum discussion on roadbed drainage. The meeting will be preceded by a dinner at 6:30.

Railway Officers

COTTON BELT.—L. C. Edmonds has been appointed general agent at Amarillo, Tex., succeeding **E. M. Vernon,** who has retired after more than 38 years of service.

LONG ISLAND.—As announced in *Railway Age* December 25, 1955, page 43, **Thomas M. Goodfellow** became president and general manager of the LI on January 1. Born at Altoona, Pa., October 1, 1907, Mr. Goodfellow attended Cornell University (C.E.1929). He entered railroad service in August 1926 as probationary special apprentice with the Pennsylvania and worked until June 1929 while attending school. After graduation he served the Pennsylvania successively as assistant on engineer corps, assistant supervisor track, supervisor track, assistant division engineer, division engineer, assistant superintendent freight transportation and division superintendent. From June to August 1954 Mr. Goodfellow served as superintendent on special duty with the Long Island at Jamaica, N.Y., and since August 1954 he had been vice-president and general manager of the road.

Thomas M. Goodfellow

LOUISVILLE & NASHVILLE.—M. V. Maguire, assistant trainmaster, has been appointed trainmaster, Louisville Terminals, effective November 16, 1955, succeeding the late **O. C. Banks. W. W. Goldman,** trainmaster at Evansville, Ind., has been transferred to Paris, Tenn., succeeding **E. H. Civils, Jr.,** who replaced the late **E. C. Murray** at Pensacola, Fla. (*Railway Age* November 28, 1955, page 43). The territory of **F. R. Trovillion,** trainmaster at Evansville, has been extended to include subdivisions formerly under jurisdiction of Mr. Goldman.

Douglas C. Lanier, traveling passenger agent at Louisville, has been appointed district passenger agent at Mobile, Ala., effective December 1, 1955, succeeding **Fred W. Holder,** who resigned to accept the post of general manager of Bellingrath Gardens, famous tourist attraction, in Mobile.

MERCHANTS DESPATCH TRANSPORTATION CORPORATION—NORTHERN REFRIGERATOR LINE.—H. L. Campbell, manager—operations, has been appointed vice-president and general manager, with headquarters as before at Chicago. The position of manager—operations has been abolished.

MILWAUKEE.—Ralph S. Stephenson, comptroller, has been elected vice-president and comptroller in charge of finance and accounting, to succeed **J. W. Severs,** vice-president, retired. Mr. Severs will continue to serve as a director and consultant.

Ralph S. Stephenson

MISSOURI PACIFIC. — N. E. Kernell, assistant general freight agent at St. Louis, has been appointed general freight agent there and has been succeeded by **H. J. Davis.**

Waldo H. Bailey, assistant general superintendent of transportation, retired January 1 after 43 years of continuous service.

NASHVILLE, CHATTANOOGA & ST. LOUIS.—W. S. Hackworth has resigned as president to become president of the Nashville Trust Company. **William H. Swiggart,** a vice-president and former general counsel of the NC&StL, who has been general counsel of the parent Atlantic Coast Line at Wilmington, N.C., for several months, has been named executive vice-president of the NC&StL, with duties and authorities of the president, pending Interstate Commerce Commission action on the proposed merger of the two roads.

PITTSBURGH & WEST VIRGINIA.—D. L. Jerman, assistant chief engineer, has been appointed chief engineer at Pittsburgh, Pa., effective January 1, succeeding **F. L. Riddle,** who asked to be relieved of the responsibilities of that position, after nearly 33 years of service with the P&WV. Mr. Riddle has agreed, however to continue as consulting engineer.

J. A. Parsons has been appointed staff assistant at Pittsburgh.

C. H. Manoogian has joined the P&WV as manager of labor relations.

READING.—Wesley A. Clem, purchasing agent, has been named general purchasing agent at Philadelphia. **George E. Wilson,** manager of stores, has been promoted to purchasing agent and his former position has been abolished. **Joseph K. Herman** has been appointed assist-

(Continued on page 40)

Wesley A. Clem

George E. Wilson

Walter A. W. Fister

Questions and Answers FOR THE TRANSPORTATION DEPARTMENT

What are the duties of a trainmaster? Are they the same today as they were 30-35 years ago?

L. F. Loree, in his book "Railroad Freight Transportation," published some years ago, outlined the duties of a trainmaster as follows:

"The trainmaster is an outside man. He has no office duties of consequence, but is expected to keep on the road almost constantly, observing locomotive performance under service conditions; studying the work of the trainmen and forming opinions about their fitness, and acting generally as the eyes and ears of the superintendent. The work of the mechanical department and that of the transportation department are intimately allied and the trainmaster is the expert observer for both, although reporting to the division superintendent. The units of the transportation service are the station force, the yard crew and the train crew. Sometimes all, and always two of these fall under his immediate control."

Times have changed.

[We asked three railroad officers if they considered Mr. Loree's resume of the duties of the trainmaster still applicable. We're printing two of their answers in this column. The third will appear in a subsequent issue.]

"While I agree that Mr. Loree's definition of a trainmaster as an outside man is perhaps as it should be, and unquestionably what it was in the good old days when we old-timers were trainmasters, times have changed. While the trainmaster still is an arm of the superintendent, changes in the general labor pattern have made it impossible for the superintendent to conduct, personally, the many duties which have now accrued to the several offices under his jurisdiction. The trainmaster, in many instances, therefore, has become more of an office man than heretofore. On the C&NW, we are giving serious attention to this matter, with the view of developing means to get the trainmasters back out on the road, where, we agree, they belong." *—J. J. Stein, vice-president—Operation, Chicago & North Western.*

"I think Mr. Loree has given us a fairly good description of the duties of a trainmaster, and I have no suggestions as to any changes."*—L. C. Porter, vice-president, Texas & Pacific.*

How many railroads actually have written descriptions of the job of trainmaster, for example, and have clearly defined who reports to him directly, etc.? One railroad recently asked its division officers to list the people who reported directly to them. Perhaps not too surprisingly it found that superintendents and trainmasters each thought that certain other supervisors reported directly to them.

I'd be glad to hear from anyone whose road recently has given some attention to job description. Incidentally, in the next column we plan to print the results of one railroad's attempt to describe the job of trainmaster.*—G.C.R.*

Where interline traffic, carried in box cars, is rerouted due to one railroad's inability to handle it, how should the empty cars be disposed of by the destination carrier?

Taylor's ICC Order 57 provides that freight traffic may be rerouted by interested carriers due to disability of any carrier named in the shipper's routing, carriers participating in the rerouting being compensated by a certain pro rata division of the freight rate. But:

1. What disposal should be made of the rerouted cars when empty, if the disabled road is the outlet from the destination road under AAR Car Service Division Special Car Order 90? And,

2. Should roads handling the loaded cars under Taylor's Order 57 handle the return of empties free, even though they are not obliged to do so under SCO 90, or should a mileage charge be levied against the disabled road for the service?

Handle under SCO 90—if sible.

"If, under SCO 90, the disabled road is the outlet from the destination road, cars should return empty to the road from which received under load, disabled road to make the arrangements.

"This presupposes that the normal outlet for box cars under SCO 90 is closed, in which event cars should return empty to the road from which received under load. If this normal outlet is not closed, cars should be handled in accordance with SCO 90. It is not considered there should be a mileage charge against the disabled road in either case." *—Eastern Association of Car Service Officers.*

CONDUCTED By G. C. RANDALL, district manager, Car Service Division (ret.), Association of American Railroads, this column runs in alternate weekly issues of this paper, and is devoted to authoritative answers to questions on transportation department matters. Questions on subjects concerning other departments will not be considered, unless they have a direct bearing on transportation functions. Readers are invited to submit questions, and, when so inclined, letters agreeing or disagreeing with our answers. Communications should be addressed to Question and Answer Editor, *Railway Age*, 30 Church Street, New York 7.

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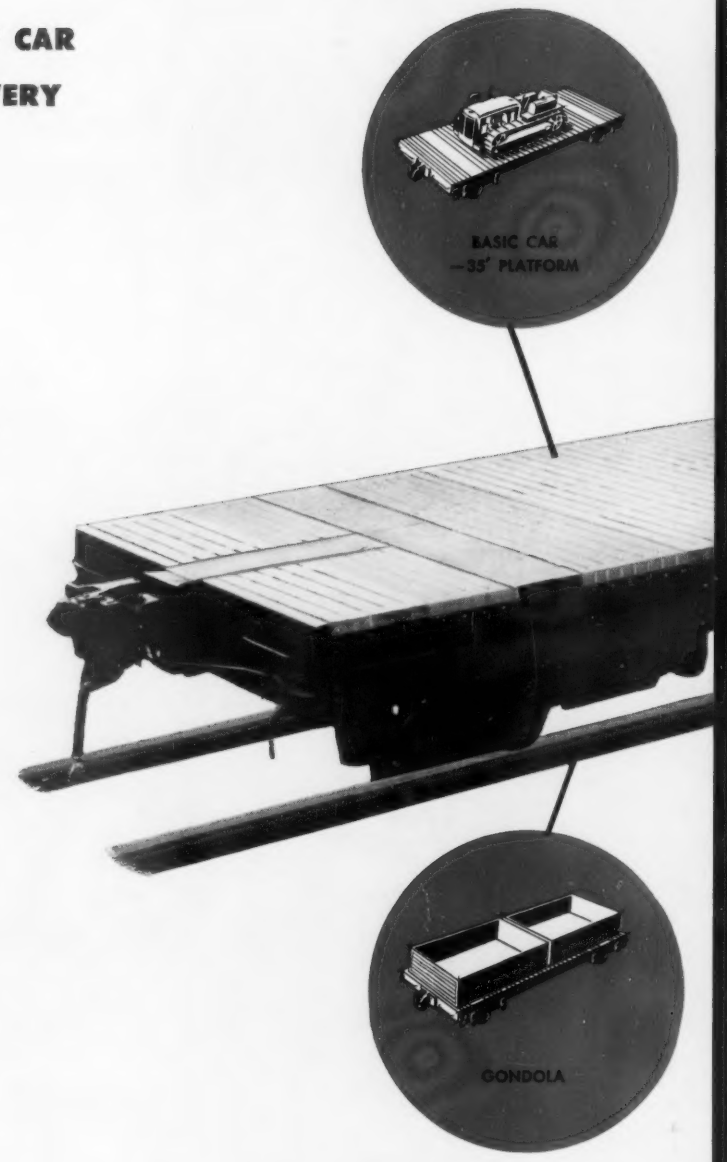
70% capacity

FIRST *LOW-COST* BASIC FREIGHT CAR COMPLETELY ADAPTABLE FOR EVERY SHIPPING REQUIREMENT!*



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- Passenger-Car Riding Qualities Through Air Cushioning
- New Cushioning Devices For Lading Protection
- Roller Bearings
- ⅓ Less Dead Weight Per Ton Hauled
- New Self-Cleaning Floor
- Basic Car Floor Adaptable To All Unit Attachments
- Standard Couplings For Use With Existing Equipment

COMPLETELY ADAPTABLE

- BASIC CAR: 35′ Platform
- BOX: Comes With 2 Detachable—8′ x 17′ Standardized Unit Compartments *or* with 4 Detachable—8′ x 9′ Standardized Compartments
- PIGGYBACK: Basic Platform Takes Largest Trailer
- GONDOLA: 2 Detachable Standardized Gondola Compartments
- REFRIGERATOR: 2 Detachable Mechanically Refrigerated Compartments
- TANK: 2 Detachable Tanks
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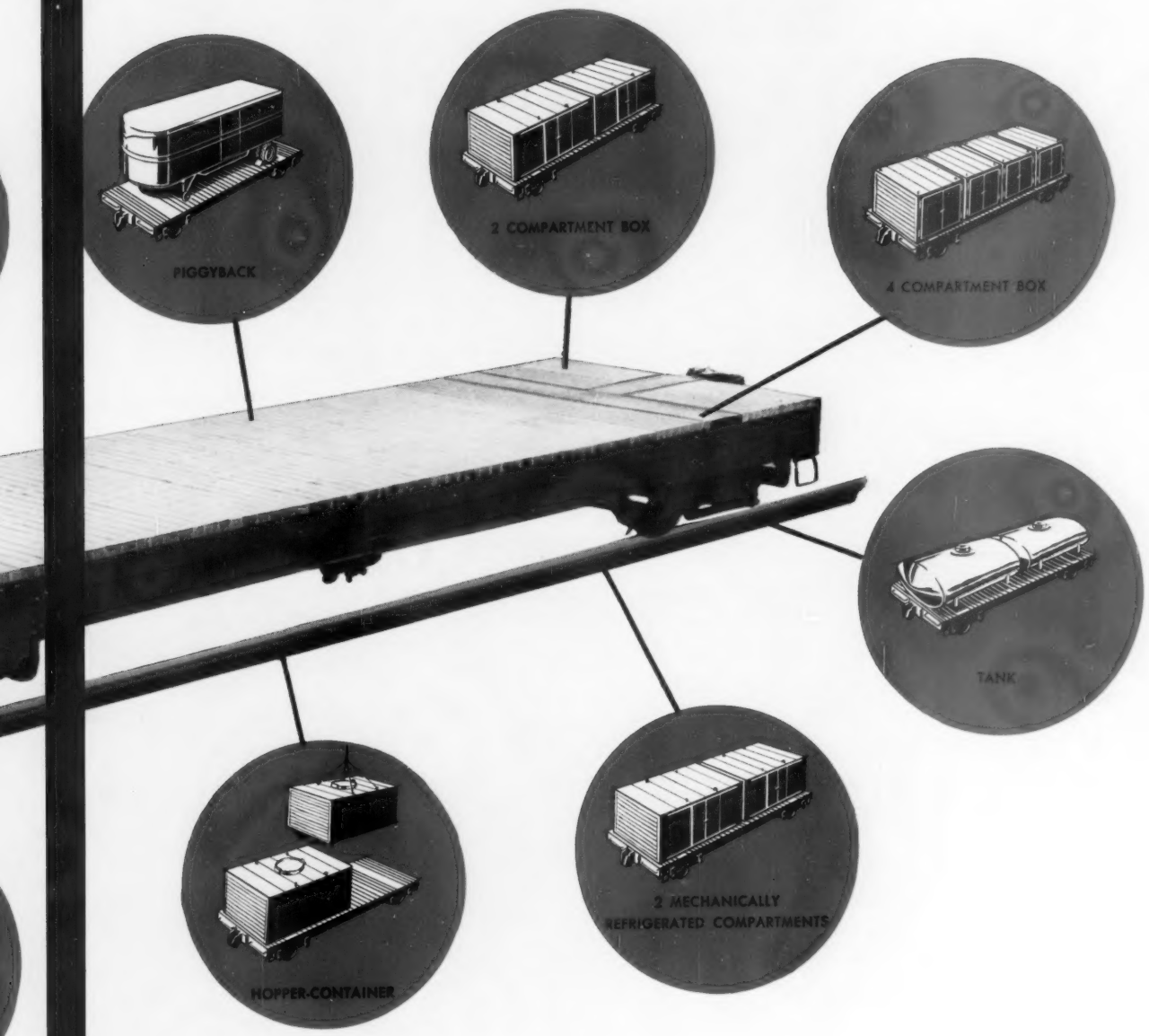
SUBSTANTIALLY LOWER COSTS

- 70% Tonnage Capacity With ½ The Weight at approximately ½ The Initial Cost (vs conventional equipment)
- Lower Ton-Mile Cost (33% less dead weight)
- Less Empty Car Miles Because of Multi-Purpose Design of Car
- Less Idle Time at Sidings Through Faster Handling by truck
- Maximum Protection to Lading Results in Lower Damage Claims
- Convertibility Reduces Need For Special Purpose Cars

Imagination is the only limit t

provides

at ½ the cost!

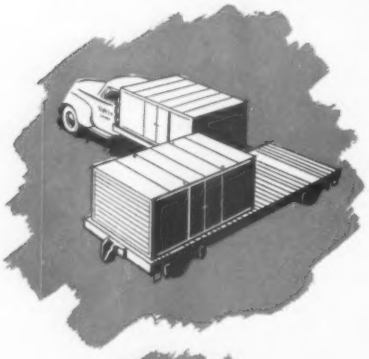


...he adaptations of the ADAPTO

Economic advantages of acf

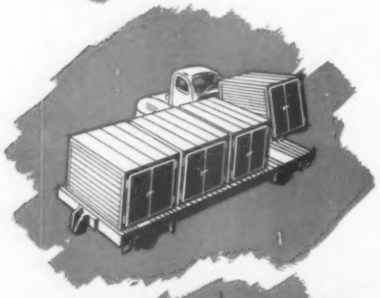
ADAPTO opens new era

in freight transportation!



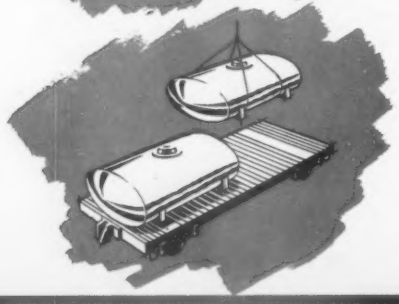
MINIMIZES SPECIALIZED CAR NEEDS

The ADAPTO encourages car ownership. It represents a lower original investment... its 17′ and 9′ containers provide for individual shippers' demands without the purchase of single-use specialized cars. Its complete flexibility simplifies shipping interchange.



REDUCES HANDLING COSTS

Complete adaptability of the ADAPTO to every shipping need reduces handling costs for railroads by cutting idle time in terminals and sidings. Its multi-purposes provide greater car utilization along with more "on line" service.



SPEED AND CONVENIENCE IN DELIVERY

From shipper's door to receiver's door in the same container is at last a reality. Freight deliveries can be speeded by truck from rail terminals outside the city to the receiver's door because the 17′ and 9′ ADAPTO compartments fit a standard truck body and can be lifted by a standard lift truck or crane.

DECREASES OPERATING COSTS

The light weight (approximately 23,000 lbs.) of the ADAPTO represents a substantial saving in hauling costs. Added to this are the additional savings incurred through minimum switching and car handling in classification yards.

acf ADAPTO designed for...

...better utilization
...reduction of dead weight
...capacity loading
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...lower maintenance costs

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First Builder of Air-Cushioned Freight Cars

AMERICAN CAR AND FOUNDRY DIVISION

acf Industries, Incorporated, 30 Church Street, New York 8, N. Y.

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Significance of "Adapto"

The "radical" has become the actual.

Back last fall, the *Railway Age* Roundtable on "The Modern Freight Car" (November 14, 1955, page 48) gave consideration to what the participants termed a "radical" idea—namely, a two-part car which would combine the advantages of heavy duty and long life and the necessity for revising "body styles" to meet the rapid and constantly changing needs of commerce. One railroader proposed that "the body of the car should be something like an 'Erector' set; i.e., the components should be produced in interchangeable units which can be assembled in any one of a large number of combinations."

At the very time this "radical" idea was being discussed, a car which embodies generally the basic scheme was already under construction—ACF Industries' "Adapto" (January 16 issue, page 8).

"Adapto" is but one of a number of unusual developments in the freight car field which may be expected to come out in the near future. The railroads and their suppliers are taking a long, hard look at the only merchandise the railroads have on their shelves—the equipment they place at their customers' sidings.

A reading of the builder's description—necessarily limited until road tests are completed—leads us to the conclusion that the new car represents not one, but *four*, individual and major lines of development—any one of which would entitle it to "make the papers." The car provides:

1. Important savings in weight and cost, mainly by reduction of length and the use of single axle trucks.

2. A car size which meets the need of an important segment of the shipping public for a smaller unit of shipment than the conventional car is designed for. (The need of other segments of industry for cars of even greater capacity than now exist creates an equally strong, if opposite, trend, of course.)

3. Combination of a chassis and body which is easily and quickly adapted to changes in demand; car bodies can be changed at will.

4. Ready adaptability to coordinated rail-highway service by "marrying" a lightweight, rail-borne undercarriage with a transferable container—or with a conventional highway trailer.

This four-wheel freight car of 1956 is believed to reduce the traditional weight-to-load ratio in the lighter load ranges. It introduces a two-wheel truck unlike any ever used before. Preliminary reports indicate that the riding qualities and tracking characteristics are much improved over any previous four-wheel car.

The four-wheel car is not a newcomer. It is commonplace in countries outside North America. It continued in revenue service in this country until the turn of the century—chiefly as "jimmies" in the hard coal trade. A big reason for its demise was the then compelling necessity for a higher payload in relation to tare weight—which, with the materials then available, could be obtained only by increasing the size of the car.

Seasonal changes in demand are making it increasingly difficult for the carriers to get efficient use of individual types of freight cars. Flats, for example, may be in short supply at one time; a drug on the market at another. Again, covered hoppers generally find more use in summer than in winter. Special purpose cars run the gamut not only of seasonal changes but as well of rapid and unpredictable changes in the contour of shippers' products and in methods of preparing and loading shipments—which tend to make today's design and fitments obsolete tomorrow. The builders of "Adapto" envisage that substitution of one type body for another, quickly and cheaply—*a la* "Erector" set—will insure efficient utilization of the more expensive car foundation and, at the same time, provide a "loading container" which meets the needs of the season and the times.

In addition to handling all-rail traffic, this new car is said to lend itself directly to coordinated service. The car can carry a trailer. But, more important, it incorporates the principle of the demountable container. It thus becomes an "hermaphrodite" vehicle, adapted directly to road-rail service, and eliminating utilization of two separate vehicles, one atop the other, each with its own undercarriage, brakes and controls.

Until wide-ranged service tests and shipper reaction are known, it is too early to appraise "Adapto." Actually, of course, the value of the new car does not depend upon acceptance of the entire "package." Even if, for example, the smaller dimensions and four-wheel support of the car should prove not acceptable, the car still embodies interesting developments in quick body change and application in coordinated service which are not necessarily related to the car's size. Success of any one of its four lines of development will make this engineering undertaking worth while.

President Jenks of the Rock Island predicted, just over a year ago, that, with regard to freight cars, "we should be in for a major change—and that very soon." His prediction has come to pass. The radical is here.

In This New Yard at Houston

Operating capacity to handle peak traffic eliminates previous delays—Much switching and all weighing formerly done en route now done in this yard—Complete blocking for all outbound trains saves time at connections and final terminals

By JOHN H. DUNN
Signal and Communications Editor

The new Englewood gravity classification yard, recently completed at Houston by the Southern Pacific Lines in Texas & Louisiana, includes numerous modern and interesting features—such as careful arrangement of elements for coordinated operations; automatic switch control; automatic electronic control of retarders; and an extensive system of radio and loudspeaker communications.

Improved Service to Shippers

This new yard is 4 miles east of the passenger station in Houston, on the line east to New Orleans. In the area where the new yard is located, the Southern Pacific previously had several flat yards, each of which handled a certain part of the work of breaking up and making up trains. Traffic was at a peak on Thursday, Friday and Saturday each week, then gradually decreased through Sunday to a minimum on Monday and Tuesday. On peak days, some incoming trains had to be held out because no tracks were available in the yard. By using all the yard crews that could get at the work, on all three tricks every day, the switching for the week, as a whole, was usually cleaned up to normal by Tuesday, just in time to prepare for the new increase toward a peak again starting on Wednesday. Now the new yard has operating capacity to do all the switching and weighing promptly.

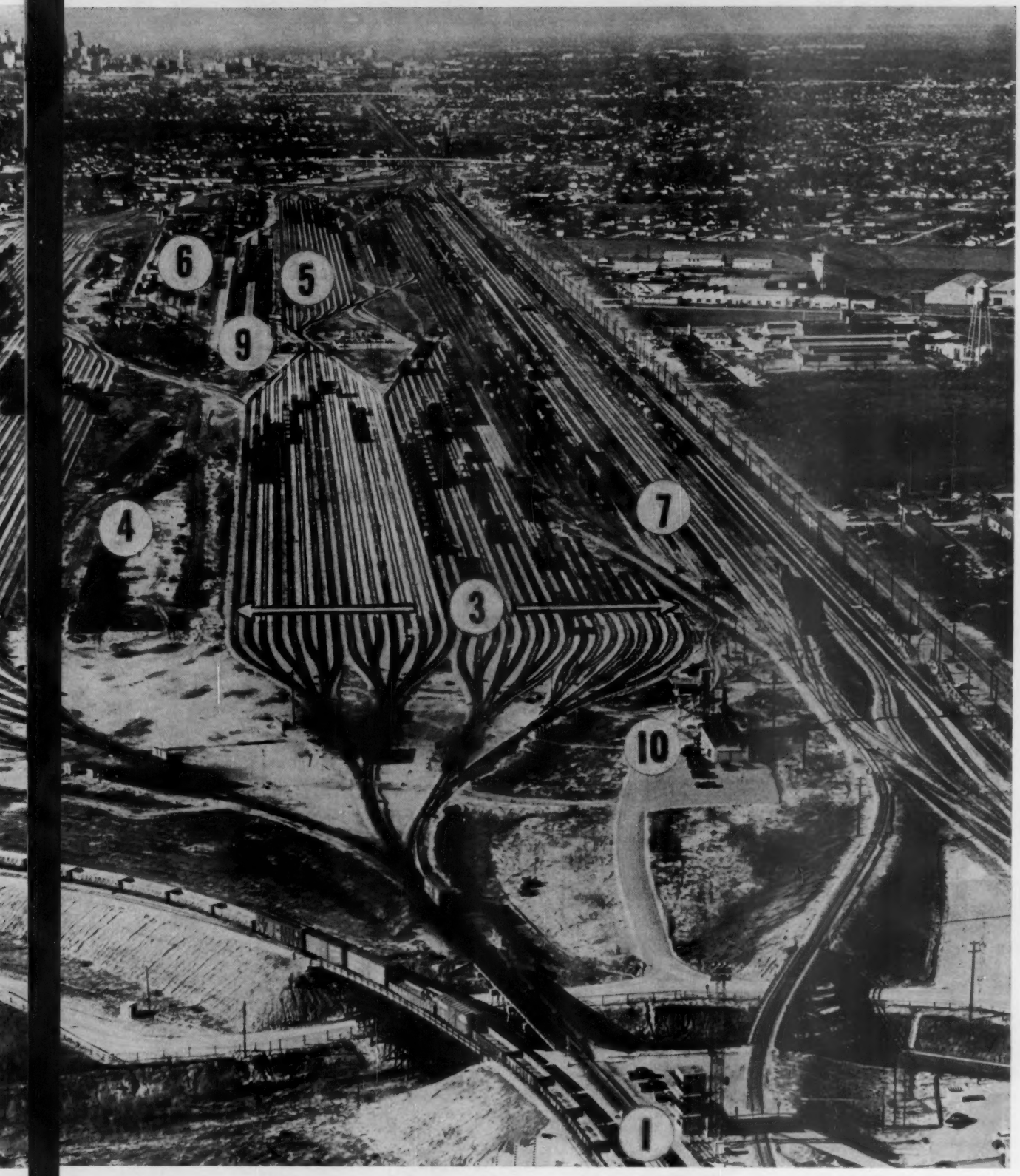
According to D. R. Kirk, superintendent of Houston Terminals, the secret of efficient utilization of the new gravity yard is: (1) programmed movement of crest engines to obtain maximum occupation of the hump; (2) scheduled trimming of classification tracks to keep them open to receive cars from the crest; (3) prompt and accurate preparation of crest lists; and (4) trained personnel.

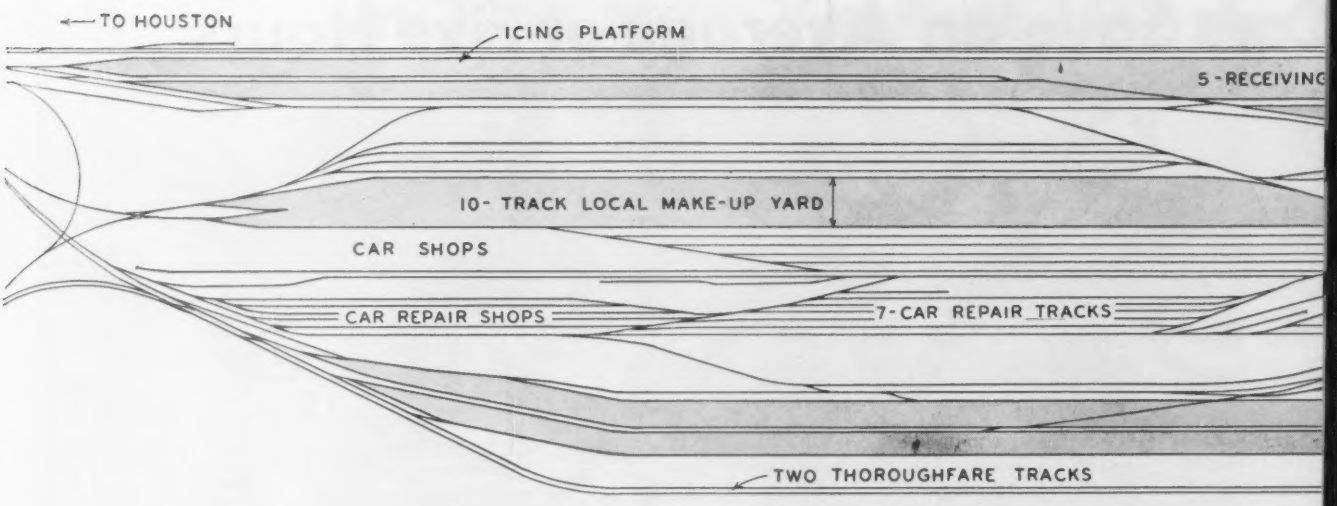
During the first several months of operation, with only 16 classification tracks in service, maximum efficiency was obtained at a humping speed of slightly less than 2 mph

HOW ENGLEWOOD YARD IS ARRANGED

1. The crest of the hump and the crest tower
2. Sixteen of the classification tracks are here
3. Thirty-two of the classification tracks are here
4. Space left here for additional classification tracks
5. Ten-track yard here for making up local trains and transfer cuts
6. Seven-track light repair yard and car shop
7. Five receiving and 5 departure tracks, north unit
8. Six receiving and 6 departure tracks, south unit
9. The assistant general yardmaster's office is on this 50-ft steel tower in the center of the yard
10. Tower for monitor control of switches and retarders

Cars Save an Average of Five Hours





ADVANTAGES OF THIS SOUTHERN PACIFIC TYPE OF PARALLEL LAY-OUT for a gravity classification yard are that receiving, classification and . . .

or approximately 3 cars per minute. At this rate for an average of 40 minutes every hour, the capacity is 2,880 cars classified every 24 hours. With 40 tracks in service since October 11, 1955, the speed has been gradually increased to 2.5 mph, and may later be increased to 3 mph, about 6 cars per minute. This operation includes automatic weighing of cars that require scaling, thereby eliminating extra switching for weighing.

With the 40 tracks now in service, considerable blocking of outgoing trains is already being performed, thereby eliminating delays to perform switching at other terminals. When the yard is completed, additional blocks will be established. For example, cars for New Orleans will be classified in several different blocks, which in many instances will permit advancing the delivery of cars to consignees as much as 8 hours. All factors considered, the average overall transit time of cars will be reduced more than five hours.

WHAT THE NEW YARD DOES

Houston is the hub from which seven principal Southern Pacific lines radiate: (1) southeast to Galveston; (2) southwest to Corpus Christi, Brownsville and the Rio Grande Valley; (3) west through San Antonio to El Paso and the Pacific Coast; (4) northwest to Austin; (5) north to Fort Worth, Dallas and Denison; (6) northeast to Shreveport; and (7) east through Beaumont to New Orleans.

In the past 10 years, Houston has grown rapidly, so that the population of the metropolitan area is now about a million people. To serve industries, the Southern Pacific delivers an average of 300 loaded cars daily, and picks up an average of 200 to bring back to the yard. About 270 loaded cars are delivered daily in interchange for further movement on other roads, and about 130 are received daily from interchanges.

About 70 per cent of the cars received in incoming trains are switched for makeup into outgoing road trains on the Southern Pacific routes radiating from Houston. An average of 24 road trains arrive at this yard daily, and about the same number depart. The number of cars switched (and weighed if required) ranges up to 3,500 daily, and will be increased to 4,000 or more daily when more of the switching done elsewhere is brought into this yard.

THIS NEW SP YARD IS

Engineered for Efficiency

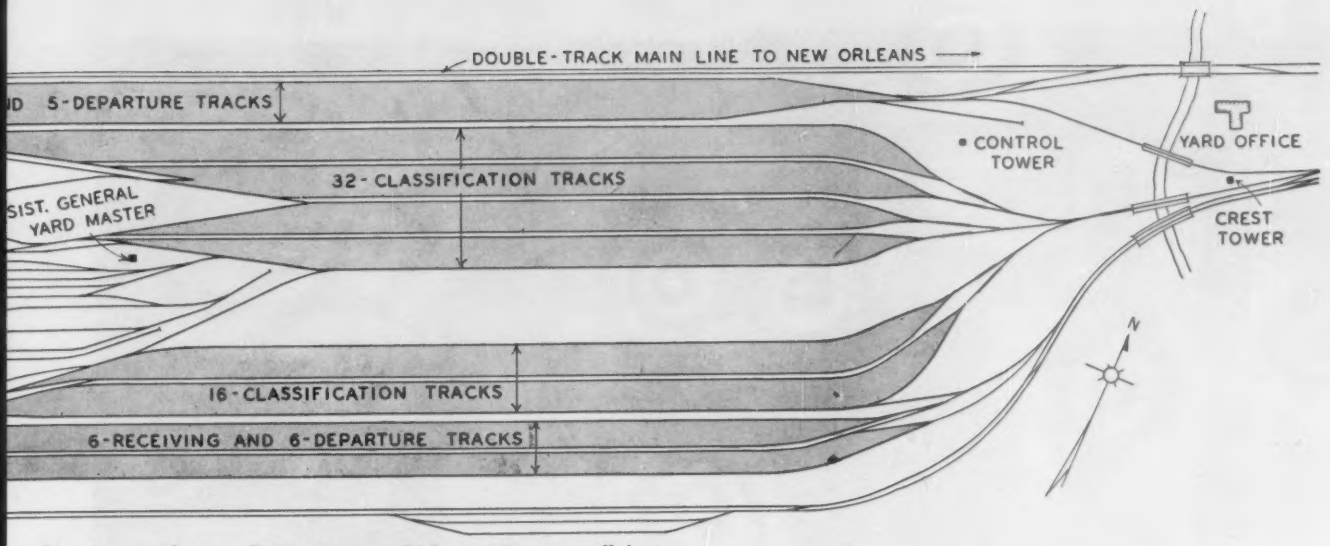
In some modern yard layouts, the receiving yard, hump, classification yard, and departure yard are in consecutive order in one line, as for example in tandem from east to west. In contrast, the new Englewood yard has a parallel-group arrangement, which represents a new idea in gravity yards.

Southern Pacific officers decided on this plan after visiting many yards throughout the United States. In this arrangement the classification tracks are in the center at the east end; and a 10-track local make-up yard, a 7-track light repair yard facility, and a car shop, are in the center at the west end. Paralleling these facilities on the north are 5 receiving and 5 departure tracks, and on the south are 6 receiving and 6 departure tracks.

Advantages of Parallel Layout

This parallel arrangement made possible the double-slip switch leads which intersect departure tracks on either side of the yard, thereby providing short, direct routes from classification tracks to departure tracks, and eliminating most of the long haul movement involved in a tandem yard. Also, the parallel arrangement has the important advantage of concentrating receiving and departure operations in a comparatively small area, permitting a more flexible and efficient use of the car department forces and clerical forces.

The two-track main line, operated under interlocking rules, is adjacent to the yard on the north, and a double-track thoroughfare extends all the way around the south side of the yard. Road trains to and from the line east toward New Orleans enter and depart from the east end of the receiving-departure yard on the north. These trains account for about 20 per cent of the traffic which enters and departs from this yard.



... departure tracks are all in one area which permits more efficient use of the yard crews, the car department men, and the clerical forces.

Road trains to and from the six other SP routes radiating from Houston, and yard transfers to and from the industrial areas of the city, enter and depart from the west end of the yard. These trains and transfers, except those moving on the Galveston route, can use the receiving-departure tracks of either the north or south unit.

The layout as a whole is such that no moves interfere with operations when a crest engine is pulling a string of cars out of a receiving track, or when a crest engine is shoving cars over the hump. Furthermore, either crest engine can pull cars out of any receiving track without interfering with that shoving cars over the hump.

The crest is on an overpass structure, spanning the double track line of the Houston Belt & Terminal. Four tracks—the North Wing Track, the Crest Lead, the South Wing Track, and East Bound Thoroughfare—cross the HB&T on the overpass structure. The crest of the hump for gravity yard operation is near the west end of the overpass. The apex is at an elevation 27 ft higher than ground level. This elevation is more than needed for gravity switching, and requires a six-section master retarder.

Starting 35 ft west of the crest, there is motion-weighing 92-ft track scale on a 3 per cent descending grade. This scale is equipped with Cox & Stevens automatic electronic weight recording apparatus. A car to be weighed must be single-car cut, and must occupy the scale by itself for a minimum of 3 seconds. All cars accelerate on the descending grade through the scale, with heavy cars accelerating more rapidly. However, even with heavy cars, such as those loaded with gravel, the weighing operation is satisfactory with humping speed up to 3 mph.

The classification unit when completed will have 48 tracks with capacities ranging from 32 to 61 cars, total capacity being 2,975 cars. Space has been left in the south half of the unit to add 16 more classification tracks later. The tracks are in six groups of eight each. Lap switches are used where the single track down the hump separates into leads to the six groups, and where the lead to each group branches off to the eight tracks in each respective group. The advantage is that the lap switches (1) shorten the distance to clearance, thus reducing the necessary separation between cuts of cars; and (2) reduce the length of line occupied by switches and turnouts, thus increasing the useful length of classification tracks.

Based on car resistance of the predominant number of cars to be switched in this yard, the Southern Pacific selected 0.14 per cent as the descending grade on the classification tracks. For most cars which enter a classification track at 4 mph, the 0.14 per cent grade will keep them going without accelerating. Therefore, the speed at which a car encounters cars already standing on the track should not cause damage, regardless of whether the track already has only a few cars at the far end or is nearly filled.

Must Hold Proper Grade

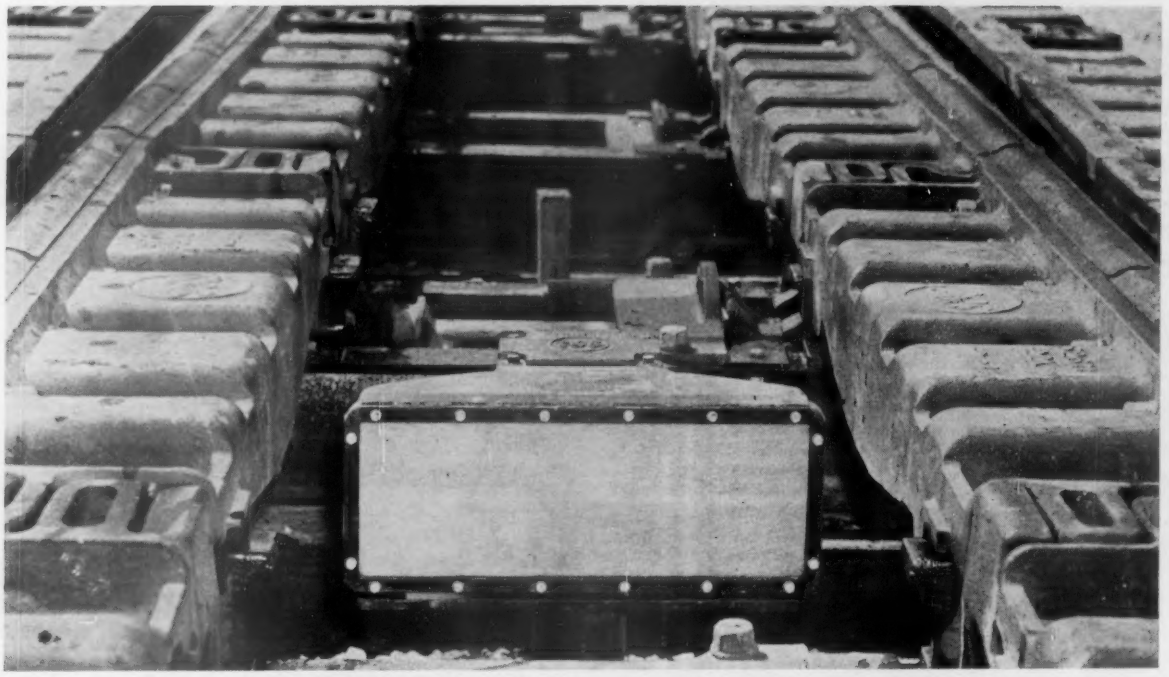
The success of such operation depends a great deal on maintenance of the yard tracks to hold the grade. Permanent grade stakes are provided as an aid in this work. If the track is not held to the proper grade, some cars may stop short, which would require extra trimming by crest engines.

Floodlighting in the yard will initially consist of 16 towers ranging from 90 to 120 ft in height, with a total of 180 1,500-watt Crouse-Hinds floodlight units and provision for adding 60 additional floodlights. This will give vertical intensities as follows: 0.2 foot-candles for receiving and departure tracks and local switching tracks; 0.35 fc in the classification tracks; 0.75 fc for ladder tracks; 1.5 fc for the retarder area to clearance points; and 2 fc on the crest lead.

Control for the floodlight towers is accomplished by photo-electrically operated oil switches on the primary side of the 6,900/120-240 volt transformers. This effects considerable economy by the elimination of a safety switch and expensive secondary contactors that in some cases would have had to handle up to 200 amp.

The electrical distribution system for the floodlighting and other electrical facilities consists of a 6,900/12,000 volt loop around the perimeter of the yard with branches extending from the loop to load centers to be served.

more



THE RADAR SPEED DETECTOR UNIT is in the middle of the track about 8 ft from the leaving end of each retarder section.

IN SP HOUSTON YARD

Retarders Are Controlled by Electronics

One master retarder 297 ft long is located on the main lead down the incline which connects to the six leads, each of which extends to a separate group, each comprising eight classification tracks. On each of these six leads there is a group retarder, 99 ft. long. Thus only seven retarders, totaling 891 track feet, were required. The 47 switches leading to the 48 classification tracks are operated by electric switch machines.

Two 2-unit, 1,600-hp diesel locomotives are assigned to humping service. The procedure is that one crew goes to the receiving unit for a string of about 125 cars, pulls them east of the hump, then shoves them back west over the hump. In the meantime, the other locomotive goes to the other receiving unit for the next string of cars to be classified.

Each locomotive is equipped with a special low gear speedometer that accurately indicates speed in the lower ranges, under 5 mph, which permits the engineman to maintain the humping movement at a constant speed, for example 2 mph, even though the number of cars being shoved up the crest is gradually being reduced.

The cresting operation is under the direction of the engine foreman. From his office on the second floor of the crest tower he directs the operation of the locomotive and supervises the work of the yardmen in his crew who uncouple the cars and perform other duties incident to the cresting operation.

In the engine foreman's office there is a small panel with 48 push-buttons, each of which is numbered for its corresponding classification track. The engine foreman receives a copy of the crest list which shows the classification track in which the cars are to be placed. As each car approaches the crest, he pushes the button for the track to which the car is routed. The automatic switching machine will store a maximum of four routes at one time. As each car proceeds down the incline, the switches are automatically positioned ahead of it, so that it is routed into the proper classification track.

Retarders Controlled Automatically

Car speeds in this yard are controlled by automatically operated retarders. The factors affecting each car are measured by various electrical and electronic devices. The information from these devices is combined with pre-set desired leaving speeds by an electronic computer, which then controls the retarders so as to provide the necessary degree of retardation.

The weight of the car is "classified" by a device, known as a weight detector, that is alongside one rail about 8 ft from the entering end of the retarder. This device classifies car weight as "light," "medium," or "heavy." Weight information is used to adjust pressure.

Speed is a factor measured by radar. In the center of the track and 8 ft from the leaving end of each 49.5-ft section of retarder, there is an ultra-high frequency (radar-type) speed detector unit. This device sends out ultra-high frequency waves in the direction toward the oncoming car. Some of these waves are reflected back and received by the device. Because these reflected waves

come from a moving object, there is a shift of frequency of the reflected waves. The phenomenon is known as Doppler effect. The difference in frequency between the original and reflected waves is the measure of the speed of the approaching car. With continuous radiation and reflection, while the car is in the retarder area, the measurement of speed is not only continuous but also practically instantaneous. This measurement is used to control the sections of the master retarder so that all cars are released at a uniform speed.

Rollability is a factor in operation while a car or cut proceeds from the master retarder down through the switches and turnout. By comparing speed at which the cut enters its group retarder with the speed at which it left the master retarder, the rate of acceleration over a known gradient and distance is determined. This is known as rollability. Actually, "rollability" for a car is generally expressed as a "per cent resistance" figure, which is equal to the grade required to maintain non-accelerating motion for the car. The acceleration of the car between the hump and group retarders is related to rollability, but also involves other factors, such as track curvature. The acceleration is not, strictly speaking, rollability itself, but serves as an index to rollability in the computing system used for automatic retarder control.

The length of a cut is a factor which is detected by means of two track circuits in approach to each group retarder. If one or both of these circuits are still occupied at the time the weight detector is actuated, the system classifies the cut—one or two cars as "short," three or four cars as "medium," and more than four cars as "long."

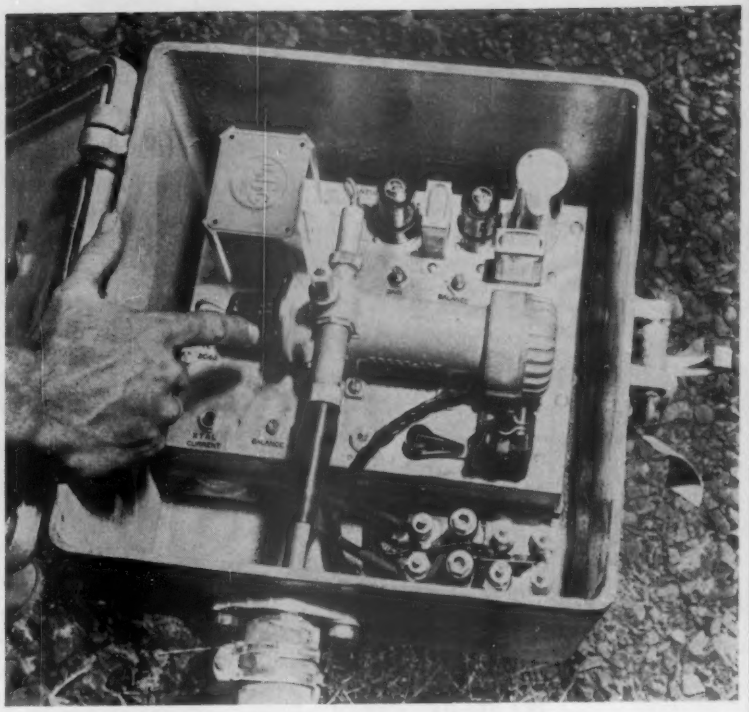
Route resistance varies on the eight routes from a group retarder to the clearance point on the respective classification tracks in the group. Variation is due to difference in curvature, as well as grade. In a series of tests, the same car with the same load was released at a certain speed from each group retarder, and routed in turn to each of the eight tracks in each respective group. Thus a value of route resistance was determined as applying to the route to each classification track. These values are stored, and are brought out at the proper time by the automatic retarder control system.

Thus, in the control of cars through each group retarder, the following factors are involved: (1) speed; (2) rollability; (3) length of cut; and (4) route resistance.

When a car or cut of cars approaches its respective group retarder, an electrical energy equivalent of the value of each of the factors listed above is fed into an electronic computer. In the computer, these values are automatically integrated to produce a value corresponding to the speed at which the car or cut should be released from the group retarder so that the speed will be about 4 mph as the car passes the clearance point and proceeds, on tangent, into the classification track.

Automatic Control Equipment

Automatic retardation and switch control equipment is located in a retarder tower in the open area north of the group retarders. The principal duty of the car retarder operator is to regulate the modification settings of the automatic retardation system to increase or decrease the speeds at which the cars leave group retarders. The modification settings are used to compensate for weather and rail conditions, and other factors affecting the rollability of cars. This modification system has a range of 4 mph; that is, the speed out of the group retarders can be increased a maximum of 2 mph above normal setting, or decreased a maximum of 2 mph below the normal setting.



ELECTRONIC EQUIPMENT in the radar transmitter-receiver is designed for rugged service.

The car retarder operator, of course, can instantly transfer any or all of the retarders from automatic to manual control and, by use of the switch control equipment at his disposal, can change the position of any of the retarder lead or classification track switches when necessary.

Uninterrupted Operation

The automatic control of the switches and retarders, with manual supervision, has been in full service on 40 tracks since October 1955. Mr. Kirk says this control system is giving uninterrupted and smooth operation. The power switch machines, retarders, and control systems in this classification yard were designed and manufactured by the General Railway Signal Company.

A car inspection station is located on the grade where cars are shoved up to the hump. Self-restoring dragging-equipment detectors check for brake gear or other equipment that may be dragging or hanging below the top of rail level.

If these detectors are operated, a warning is sounded in the offices of the crest engine foreman and the crest yardmaster and the hump signal indication is changed to "Stop."

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THE ASSISTANT GENERAL YARDMASTER, in his office on top of a 50-ft tower in the center of the yard, has radio, talk-back speakers, "intercoms," automatic telephone and printing telegraph communications with all parts of the yard.

IN THIS SP YARD

Word Gets Around Fast

Operations in this new yard are coordinated and facilitated by several forms of modern communications facilities including radio, paging speakers, talk-back speakers, "intercoms," printing telegraph, sound recorders and automatic telephones. Closed-circuit television will be added soon.

In some yards constructed in recent years, all talk-backs in the entire yard are connected to one console. However, the planners of Houston yard decided that each supervisory officer and certain foremen should each have his own console with lines directly connected to talk-backs for use by his men. Accordingly, a separate talk-back system with console was provided for (1) the assistant general yardmaster, (2) the crest yardmaster, (3) the car foreman, (4) the retarder operator, and (5) the engine foreman at the hump.

The assistant general yardmaster has direct supervision of (1) receiving incoming trains; (2) the makeup and departure of trains; and (3) all other yard operations except the actual classification of cars at the hump. This assistant general yardmaster's office is in a 50-ft tower in the center of the yard area, where he can see the yard crews that are working in practically all of the area in which he has direct supervision. On his desk is a communications console connected to 24 paging speakers and 140 talk-backs located through this area.

This talk-back system, as well as the others referred to later, works as follows: When the assistant general yardmaster wants to talk to an engine foreman who is working in a certain part of the yard, he depresses a key that corresponds with the talk-back located nearest the foreman's location, steps on his foot pedal and speaks into his microphone calling the foreman's name.

If there is no prompt answer to his call, the yardmaster may decide that the foreman may be beyond range of the talk-back. Therefore, he throws a different key to put out a call on one of the long-range paging speakers to tell the foreman to go to the talk-back nearest to him to answer. If any engine foreman or other employee in the yard wants to call the assistant general yardmaster, he presses a button on the pipe mast of the nearest talk-back. This lights a corresponding indication lamp on the yardmaster's console, and he throws the key under that lamp to connect his set to answer.

Dispatching Car Inspectors

The car foreman's office is in a one-story building near the assistant general yardmaster's tower. On this foreman's desk is a console connected to 3 paging speakers and 40 talk-backs, located along the car repair tracks and throughout those portions of the yard where his men inspect cars. The car foreman uses this communication system in dispatching car inspectors to their assignments, arranging for prompt display and removal of blue signals, and the general exchange of information and instructions with his forces.

The system enables carmen to report bad order cars promptly, and in many instances the car inspector's description of minor defects permits the car foreman to dispatch tools and parts so repairs can be made to the car in the train. This procedure avoids the delay that would be involved in sending the car to the repair track, also the delay to the train that would be incurred in switching the car out. The car foreman has direct communication with the assistant general yardmaster, and

can promptly inform him when carmen have completed their work and the train is released.

The crest yardmaster, who has his office in the top floor of the three-story control tower at the crest, has direct charge at the crest, including the work of the two crews that pull cars out of the receiving units and shove them over the hump. On his desk is a console connected to 8 paging speakers and 60 talk-back speakers located throughout the area in which he has supervision.

The crest engine foreman directs the operations of his engine from an office on the second floor of the crest tower. On his desk is a console connected to 16 talk-backs located near the places where men under his direction are working.

The retarder operator in the retarder control tower has a console connected to 16 talk-backs. Two of these talk-backs are in the relay room and in the shop on the ground floor so this operator can call the signal maintainer quickly if the power switch machines or retarders are not operating properly.

"Intercom" Connects Offices

Direct-calling, low-volume talk-back inter-communication between offices is available in this yard. The assistant superintendent has jurisdiction over the operation as a whole. His office is in the yard office, a one-story building 100 ft north of the hump. On his desk, this assistant superintendent has a console used only for "intercom." This console and the five consoles already mentioned are interconnected by circuits so that intercom calls can be made directly between any two of the six consoles; viz. (1) assistant superintendent, (2) assistant general yardmaster, (3) car foreman, (4) retarder operator, (5) crest yardmaster, and (6) engine foreman. Other low-volume intercom circuits include: (a) from the assistant general yardmaster's console to (1) crest yardmaster; (2) engine foreman; and (3) car foreman; (b) from the crest tower console to (1) retarder tower; (2) assistant general yardmaster; (3) engine foreman; and (4) local terminal loudspeaker line; (c) from the car retarder operator's console to (1) crest; and (2) engine foreman.

The car inspection station is on the grade where cars are shoved up to the hump. Men in concrete pits on each side of the humping lead inspect the trucks and undergear of passing cars. A man in an elevated cabin inspects the sides and tops of cars. A low-level loudspeaker system connects these car inspection locations and the crest yardmaster, engine foreman, weighmaster, yard office and retarder yard.

In addition to the facilities described, a low-level loudspeaking system, known as the round robin line, connects the assistant general yardmaster, crest yardmaster, yard office, interlockings at both ends of yard, and several other points throughout the yard.

The equipment for the paging, talk-backs and intercom systems, including the consoles and amplifiers and relays, was furnished by the Electronic Communication Equipment Company.

Two-way radio communication is in service between yard locomotives and certain offices in the yard area. The equipment in the locomotives will operate on either of two frequencies. The 161.670 mc frequency is used for communication either way between the crest yardmaster and the two hump locomotives. On all other locomotives working in the yard, the radio is on 161.550 mc frequency for communication either way between the assistant general yardmaster and these locomotives. The radio equipment was furnished by Motorola, Inc.

Car Checking on Automatic Recorders

Formerly when a train arrived, a clerk walked along the train to record the car initials and numbers in train sequence. Now this is done by using telephone circuits connected to tape recorders in the yard office. At each of the three locations where trains enter this yard, there is a small "checking" tower. These towers are connected to the yard office by automatic telephone.

As an incoming train approaches the checking tower, a yard clerk dials his telephone to form a connection with the proper sound recorder in the yard office, and receives an indication that the recorder is ready for operation. As the train passes his tower, the yard clerk speaks into his telephone transmitter, calling the initial and number of each car in train sequence. This information is recorded on the tape in the yard office. When the check of the train is completed, the clerk simply hangs up his phone. This stops the recorder and illuminates an indicator in the yard office.

As the caboose passes the checking tower, the conductor places his waybills in a chute, and the clerk in the tower then sends the waybills by pneumatic tube to the yard office. When the waybills are received in the yard office, they are compared with the check on the tape recording to ascertain that the waybills are in train order. The crest list is then prepared and transmitted by Teletype to various offices, including that of the assistant general yardmaster, the crest yardmaster, crest engine foreman, retarder operator, and inspection station.

Waybills and other information are processed in card and tape form by a complete installation of IBM equipment for preparation of crest lists, train consists, conductor's car and tonnage report and car records. The pneumatic tube system is also used for transmission of waybills and train orders from the yard office to checking towers at the west end of the yard for delivery to conductor. When the yard is completed, the automatic recording system will be used to check cars for outbound trains as they are removed from the classification tracks.

The automatic telephone equipment was made by the Automatic Electric Company, the seven tape recording instruments were made by the Ampex Electric Corporation, and the printing telegraph equipment by the Teletype Corporation. The pneumatic tube for transmitting waybills is 6 in. in diameter, and a smaller tube for transmitting messages between certain offices is 3 in. in diameter. The system includes 18,000 ft of 6-in. tube and 5,500 ft of 3-in. tube. Materials and equipment for this tube system were furnished by Kelly Systems, Inc.

This yard was planned and constructed under recommendations of Englewood Gravity Yard committee, consisting of J. J. Moore, retired general manager, G. W. Kelly, assistant general manager, B. M. Stephens, assistant chief engineer, W. R. Smylie, signal engineer, and W. L. Fagley, superintendent of communications. Construction was under direct supervision of R. G. Schultz, special assistant engineer, D. W. Morris, supervisor of signal construction, and J. N. Albertson, assistant superintendent of communications.

Worse Than Government Operation—

In France, the losses to the nation from uneconomic division of traffic between rail and highway, an economic analyst reports, are greater than the deficits ($380 million in 1955) of the government-operated railways

A Report by J.G. LYNE
Editor, Railway Age

Americans are almost unanimously opposed to government ownership of railways. Meantime, however, we have procrastinated longer than any other leading nation in taking steps to put transportation competition on a rational economic basis. Reputable testimony now comes from France to the effect that the deficits incurred under railway socialization are a lot less costly to that nation than failure, thus far, to pursue policies which will encourage economic division of traffic among the alternative means of transportation. Yet France has gone much further in this latter desirable direction than we have in the U.S.A. (see *Railway Age*, May 9, 1955, page 17).

In our laudable alertness in America to the dangers of government ownership, are we perhaps blind to economic wastes in transportation which may be of even more serious magnitude?

Railroads Subsidized . . .

France is a country where the railroads are government property. Consequently, it isn't the trucks but the railroads that get the bounties from the public treasury. This and other striking aspects of the transportation problem in France are set forth in an informative book* —unfortunately not yet available in English—by Professor Paul Coulbois of the University of Strasburg.

The railways' deficit—i.e., all contributions of the public treasury to the railways, for whatever reason—is estimated by Professor Coulbois at 137.2 billion francs ($384,000,000) for 1955. (The French railways in 1955 moved less than 10 per cent as many U.S. traffic units—ton-miles plus 2 times passenger-miles—as U.S. Class I railroads.) Meantime, total annual expenditures on all France's highways (construction, maintenance and policing) are estimated at approximately 160 billion francs ($448,000,000) while receipts from taxes on motor fuel add up to about 224 billion francs ($627,000,000). In other words, the government is taking in about $180,000,000 more per year in fuel taxes than it is expending on highways.

Professor Coulbois does not lay the huge deficit of the national railways at the door of management. On the contrary, he makes it very evident that the management of the railways is doing a highly creditable job in increasing the railways' efficiency. In 1954, the railways produced 39 per cent more "traffic units" (in French practice, ton-kilometers and passenger-kilometers added together) than in 1938, with a decrease of 24 per cent in employees—and a much greater decrease in the number of cars and locomotives in service.

. . . But Chained Down . . .

It isn't management, but government policy and laggard modernization of the rate structure—says Professor Coulbois—that have produced the huge railway deficit. Also, in the author's opinion, France is suffering a loss much larger—although undeterminable—than the railway deficit because of an uneconomic division of traffic among the various agencies of transportation. In other words, France's really big transportation waste arises, not from the deficit of the railways, but from the fact that trucks are handling freight that could move more economically by rail; and vice versa. This uneconomic selection of means of transportation, Professor Coulbois believes, can best be corrected by changing transportation charges from a "value" basis to a "cost" basis. By this device traffic will be channeled to the form of transportation that can do the best job for the smallest outlay of labor and capital.

One of the policies that contributes heavily to the French railways' deficit is the much more liberal "social security" (pensions and other "fringes") provided for railway employees than for employees of other industry. The "social security" levies on the railways have reached the huge ratio of 97.6 per cent of direct wage payments (more than twice the ratio of other French industry).

*"La Situation Financière de la S.N.C.F." Price 800 francs. Published by Librairie Armand Colin, 103 Boulevard St. Michel, Paris 5e.

CONFLICT BETWEEN RAIL AND HIGHWAY IS NOT RATIONAL

"The major reproach which may be directed against public policy toward transportation so far is—not simply that the policy isn't working—but that it is aggravating a difficult situation. It is doing this by arraying one form of transportation against another—making them irreconcilable enemies. Actually, their services are inherently complementary rather than competitive, and the agencies should be cooperating.

"This conflict has its origin in ignorance. There is failure to perceive the meaning and range of the problem; and there is lack of knowledge of the resources available in economic theory for solving such problems as this. Instead, the problem is being treated as if it were one of reconciling conflicting interests—whereas what is actually needed is an objective calculation of comparative advantages and comparative costs."

Moreover, the government arbitrarily requires the railways to keep freight rates low on certain basic commodities—and for certain favored classes of passengers (e.g., commuters, soldiers, large families)—and the government reimburses the railways, at least in part, for such substandard charges. Also, the government—in recognition of the fact that waterway users do not have to pay tolls and that highway users do not have to raise the capital for highway construction—makes a partially offsetting contribution to the railways of a portion of their roadway costs.

All these "indemnities" to the railways added together do not, however, constitute the whole government contribution to the cost of railway service. The railway system suffers a further deficit over and above these specific-purpose subsidies; and the public treasury also makes good this residual deficit.

Professor Coulbois offers a number of suggestions for reducing the deficit—for example putting railway employees on the same basis of "social security" as other industrial employees. But he emphasizes again and again that the railway deficit represents no more than a fraction of the economic loss the country is suffering from unwise dealing with transportation. Indeed, he points out that the railway deficit might be wholly overcome and the railways might be earning a profit; and the major part of the nation's waste of resources on transportation could still continue. This waste, as heretofore indicated, arises from a poor selection by traffic of economic channels of movement—a faulty selection which is fostered by the traditional system of charging, both for railway service and highway service.

Rail Costs Low

The author presents detailed figures on costs of railway service (by trainload, heavy carload, light carload and LCL), and similar figures for highway and inland waterway transportation, and concludes: "It will be seen that the railway is far from representing an outmoded and costly form of transport which (as some allege) is seeking 'to re-establish artificially its monopoly, on the ruins of its competitors'."

Professor Coulbois traces the historical origin of some of the unprofitable services the railways are required to provide. Back in the days when the first railways—then privately owned—were being built, they obtained exclusive franchise rights, and the right of expropriation to secure their rights-of-way. In return for such grants, the railways were required to assume some obligations—such as accepting all traffic offered, non-discrimination, and so on. Meantime, the railways' monopoly power—which justified the imposition of these obligations—has disappeared; but the obligations haven't.

Must Help Rivals

In fact, the railways' obligation to move any and all traffic offered is, as the author points out, a service to their competitors. For example:

"An industry buys four trucks for one of its plants—because it knows it will have enough hauling to do to keep these trucks busy all year around, with full loads—hence providing a very low operating cost. In the fall of the year, when the plant's traffic volume is temporarily doubled—or if it has to lay up one of its trucks for repairs—the temporary excess of traffic over truck capacity is turned over to the railways to handle. Thus, the availability of the railways as a 'stand-by' gives a much lower figure of transportation cost by truck than if the shipper had to provide the 'stand-by' capacity himself.

"Another business, which distributes its product to all cities of France, will give the bulk of its traffic for such large cities as Paris, Lyons and Toulouse to the trucks—because, for such points, the volume is heavy and full truckloads are assured. Moreover, return loads for the truckers in these key centers are easy to get. The truckers' charges to the shipper for serving these key centers are, consequently, most attractive. The traffic for secondary points—going out in shipments of 100 or 200 lb—is turned over to the railways, whose charges for handling package freight, especially on lines of light traffic, are much lower than the actual handling cost. Thus, the railways' obligation to serve all traffic—and not just that which is attractive—has the result of artificially lowering the costs of other agencies of transportation and artificially increasing those of the railways."

The ratio of empty car movement to total on the French railways is 36 per cent. For trucks, empty movement is 25 per cent. If the railways, by practicing the same traffic selectivity that the trucks do, could also reduce their empty movement to 25 per cent, the saving would amount to $31,000,000—and this one single step would wipe out 8 per cent of the French railways' present deficit.

"The different methods of transportation, by their inherent nature, are not competitive but complementary," Professor Coulbois insists. "It would be absurd to want to eliminate one of the techniques of transportation to the advantage of another. The real problem is that of the simultaneous utilization of all the available methods—taking account of the inherent qualities of each—and

(continued on page 39)

THE ANSWER LIES IN ECONOMICS —NOT IN POLITICAL CONTROVERSY

"To escape from the present stalemate, two reforms are needed. First of all, the problem should be taken out of the field of political conflict and put where it belongs, into the realm of economic analysis. Then, at the same time, a psychological reform is needed—to bring an end to the atmosphere of hostility, where each side suspects hidden motives on the part of the other. The application of sane measures is impossible in such a hostile atmosphere.

"Railroaders must quit looking on railroading as an 'end in itself'. They must stop considering every effort, however reasonable, to reduce the field of operation of railways as a personal affront. At the same time, the truck operators must quit insisting on the retention of every item of the existing situation, which everyone is bound to recognize is injurious to the nation as a whole.

"The principles to be applied are known. It remains for men of action to prove that they are not prisoners of misunderstanding or of questionable interests—but that they are capable of putting into effect the results of objective analysis."

HOT BOXES— Causes and Cures **2**

ARMOUR RESEARCH FINDINGS MAY DO IT; BUT . . .

Previous Solutions Haven't Worked

C. W. Kimball of Southern tells Atlanta meeting that hot box elimination is probably far in the future

Keynoting the "hot box meeting" of the Southern and Southwestern Railway Club January 19, C. W. Kimball, the Southern's chief of car inspection, said that all the work on the hot box until very recently has never produced a real solution to this problem. The work done by the Armour Institute has produced three concrete proposals. They are now being accepted and made mandatory; their efforts cannot be immediate and final appraisal probably will take years.

"Some Accomplishment"

"It is true that there has been some accomplishment," Mr. Kimball continued. However, railroads continue to have hot boxes, and have them more frequently than they should if efforts to eliminate them were rewarded with corresponding results. "My experiences in hot box reduction probably parallel very closely those of men on other roads who are charged with this same responsibility," he said. "I have attended dozens of meetings where hot boxes and their prevention were discussed. I always went hoping someone would come up with a panacea that would cure all of our hot box problems. I have always left with a let-down feeling because the cure-all had not been forthcoming."

Mr. Kimball outlined some hot box causes on which most railroad men agree. "The one most commonly recognized is the waste grab. But even here there is disagreement. I recall one trunk line car department foreman who insisted that the waste grab was the result and not the cause of hot boxes. I could never subscribe to this theory. I have seen too many cases of waste under journal bearings before the journal had run hot. Waste grabs are real and do cause hot boxes.

"One large railroad decided that too much oil caused hot boxes. They reasoned that with too much oil in the box the waste pack became soggy and settled away from the journal surface depriving the journal of lubrication. There is also the theory advanced by some that too little oil is a cause of hot boxes. I tried out both theories. One summer I had every car oiler carry a can with instructions to apply oil to every box. The next summer I took the cans away. What happened? Nothing—as far as curing hot boxes was concerned.

"Some roads abandoned the one-piece method of packing boxes and adopted the roll method. Others did not, and actual experience does little to justify either. The Southern uses the roll method but I have long since abandoned hopes that it would cure or substantially reduce our hot box problem. I do favor it over the one-piece method because with rolls the amount of packing in each box can be controlled. There are roads which claim that loose packing will contribute to hot boxes, and others claim that tight packing will. Accuracy of either claim would be very difficult to establish, and a happy medium between should be more efficient and carry out more closely the requirements of the AAR Lubrication Manual.

"The spring packing retainer has been adopted as standard on many roads. Possibly as many others have not done so. The retainer was designed to prevent packing in the journal box from shifting. The packing should not move up the side of the box to the brass and wedge where it could easily be caught under the brass when the brass is jarred up off the journal by heavy impact.

"The retainer's success has been hotly debated. In numerous cases it has been reported that the retainer itself actually damaged the journal and caused hot boxes. To get an idea of retainer performance, we tabulated 10,000 cars of all types and ownership in various yards. Nearly 34 per cent had retainers. Random selection of 2,000 detailed hot box reports from our files showed that 17 per cent of these hot boxes occurred on cars with retainers. It will seem that the frequency of hot boxes on cars equipped with retainers was somewhat lower than on cars not so equipped. The span between the two, however, was not definite enough to strengthen the hope of having found the answer.

Braking Arrangement

"There is the theory that the braking arrangement of freight cars has a bearing on hot boxes. The way the brake beams are hung and rigged up for braking means that the two inside beams exert the initial and strongest surge, and thereby could cause a greater upheaval of the brass and packing. By using reports of 2,500 hot boxes and tabulating them as to box number, I found that 44.1 per cent were at the first and fourth, or outside, positions, and 55.9 per cent at the second and third box locations. This difference may not be significant enough to prove the theory.

"The argument between those favoring wool waste and those using cotton packing has raged through the years.

The claims of resiliency, wicking, and settling in the box have furnished ammunition for the word battles often fought and never won. Our experience with both, and with a mixture of the two, has not enabled me to form an opinion.

"Car oil used has been a problem. Roads in the South want a heavier oil, especially in the summer. The roads up North want a lighter oil that will flow easier in the cold winter climate. With interchange of equipment, in which everybody handles everyone else's cars, we cannot have both.

"Too much time, effort, and money have been spent," Mr. Kimball asserted, "in trying to disprove the operating qualities of the waste and oil that railroads have been using. The efficiency of our present specification oil and waste is fully attested by a comparison of performance between freight and passenger equipment.

"For one full year while we were having hot boxes on freight cars by the thousands and miles per hot box were hovering around the hundred thousand figure, we had only eight hot boxes on our passenger trains and four of these were caused by defective bearings. During that one year period, only four hot boxes could be charged to failure of oil or waste.

"Our miles per hot box on passenger cars were around ten million as compared to one hundred thousand for freight.

"To make this comparison even more significant, the same renovated packing and oil were used on both types of equipment. In light of the facts brought out by this comparison, I cannot subscribe to the opinion of many that our waste and oil are still so far short of our lubrication requirements.

"There is considerable agitation to extend the packing period from the present 18 months to 36 months. While I am not adverse to some extension of the packing period, I think that those advocating the three-year period might be more concerned with reducing costs than with any conviction that such an extension would provide more efficient lubrication. The condition of oil and waste is not all that is needed to give good performance. Failure of journal bearings also contributes to hot boxes.

"Suppose we did go to the three-year period? At the end of that time, the brass would be inspected and if no defect listed in the AAR rules was found it would be returned to the box to run for three more years. The number of times this can be repeated is problematical. When you consider the many defects that befall journal bearings, it might cause wonderment as to our system of using a time basis instead of a usage basis as the determining factor in inspection and replacement.

"The railroads, acting individually and together through the AAR, for years have spent enormous amounts of time, effort and money in experiments, study and tests in attempting to reduce hot boxes. The most recent mutual effort was the Armour Foundation study. This work has been completed along with the report and recommendations. The details of their studies fill hundreds of pages. From it all we get three main recommendations. They are:

"1. Adoption of a system of controlled journal bearing clearances;

"2. Development of a more efficient all-weather oil;

"3. Abandonment of waste as a lubrication medium.

"Railroads, through the AAR, have acted speedily in carrying out these three recommendations.

"Specifications and rules have been changed to make the controlled clearance journal bearings standard. This is accomplished by requiring that axle journals be turned to step sizes and bearings specified for each size. Necessary changes have been made in the AAR rules, the Wheel and Axle Manual and the Manual of Standard and Recommended Practice—all to become effective on March 1, 1956. The bearing will be marked on the collar end with its size. To provide for application of proper brass journal, 'Go' and 'No Go' gages have been designed. These will be used when changing wheels and during periodic repacking of journal boxes. Journal size will also be determined when brasses are renewed separately.

Lubricators and Bearings

"A really efficient all-weather oil has long been sought but never obtained," Mr. Kimball declared. "Due to the very nature of the freight car operation, lubrication must withstand quick and frequent temperature changes. A car may be in a 70- or 80-degree zone and in two or three days be in 30 or 40 deg below zero weather. A car oil, to function properly under such temperature fluctuations, would have to be the best that scientific minds could develop. Then, summer in Dixie would cease to be 'hot box season.' "

"The third recommendation could put a terrific economic strain on most railroads if it should be done very rapidly. Some roads are equipping freight cars with roller bearings. The cost is almost prohibitive for the number of friction bearing cars now in service. Even if it could be done, we have no positive assurance that the roller bearing is the answer. While their performance to date is encouraging, time alone will tell if they will indefinitely withstand the terrific shocks to which they are subjected in heavy impact switching.

"To supplant waste, a number of lubricating devices have been devised. There were about 16 at the latest count, some of mechanical design and others of various pad types. Quite a few railroads are applying these lubricators on a test basis sanctioned by the AAR. While mileage and experience are being accumulated on these test applications, it may require years to come up with a lubricator that fulfills all of our needs.

"To illustrate the amount of time and mileage that should give us sufficient data to properly evaluate lubricators, I would cite our hot box frequency. In checking back on our records, I find that for a ten-year period between 1944 and 1954 our line had 52,552 hot boxes. Our ownership of freight cars at the end of 1954 was approximately 53,000. It will be seen that on the basis of these figures, a freight car will have only one hot box each ten years.

"While this figure of one hot box on a car each ten years must be looked upon as only an approximate average, it does represent what was obtained in the past. It was done with waste as a lubricating medium and until it can be established that lubricators of some sort, substituted for waste, can definitely improve on that average, approval of any or all of these lubricators must necessarily be based on only partially completed tests. The experience already accumulated, however, has been encouraging and so we move toward the carrying out of the third recommendation of the Armour Foundation.

"The matter has already been discussed by the General

Committee of the Mechanical Division of the AAR and we may expect a specific directive along this line. When it comes, it will probably be that AAR rules will be adjusted to require that new cars built after a certain date must not use waste as a lubricating medium, and that on and after some future date waste will be prohibited on all cars.

"Change Is Coming"

"Due to the costs involved in carrying out such a radical and expensive changeover, I cannot visualize too rapid a departure from our present practice," Mr. Kimball said, but he believes "the change is coming. One comforting thought to carry during the changeover is that a large majority of our hot boxes are reported as caused by waste grabs. If there is no waste, there cannot possibly be a waste grab. That being so, all the hot boxes from that cause will be automatically eliminated.

"When the three Armour recommendations have been instituted, we will have experienced the first radical changes in the method of freight car lubrication within the past quarter of a century or more. Though the reception for these changes may vary, all of us will be relieved when hot boxes have been decreased to the point where we can get on with other phases of operation without fear of delay to trains or broken journals. It is pleasant to contemplate.

"In most presentations of this kind there is usually a '*but*' section," Mr. Kimball continued. "It so happens that I have a couple of instances where recommendations of the Armour Foundation did, in my opinion, fail to recognize causes of hot boxes and consequently offered no recommendation for correction. The first is the heavy increase in hot box frequency during the summer months. On the Southern, we have approximately as many hot boxes from June through September as during the other eight months of the year. The greatest number of hot boxes in one month was 1,105 in July 1949, and the least for a month was 69 in December 1954. I hasten to add, however, that since that disastrous July in 1949, our largest monthly total has been more than cut in half. "Even with this improvement, the summer months still present a problem that seems to have no solution. We check the servicing routine that has been specifically prescribed and find that these instructions are being faithfully followed. Hot boxes continue and we double back and recheck.

"When all of the details for repacking journal boxes and servicing in train yards, as spelled out in the AAR Lubrication Manual, have been strictly complied with, there seems little else we can do in the summer to reduce hot boxes but to pray for snow.

Displacement Impact

"In my opinion, the displacement of the journal by impact can be overcome," said Mr. Kimball. He expressed surprise that the Armour Research report "did not recognize excessive impact as a contributory cause of lubrication failure. There are at least two different designs of journal stops on the market which would eliminate the horizontal movement of the journal during impact." The opinion expressed in his paper, Mr. Kimball emphasized, are his own, and should be so considered. It is quite possible that the opinions of others are based on substantially firmer grounds. "They should be retained if they survive the test of logic and reason. Hot boxes are sometimes cured that way."

Rebuttal from the Thread Machiners

A Letter to the Editor:

An article in the November 7, 1955 *Railway Age*, page 26, dealt with "Hot Boxes—Causes and Cures." While accurate in the main, we feel that the caption accompanying a picture of a badly packed box was misleading. It intimated that all thread packing is bad or passé, which is far from the truth. Even the recent AAR General Committee tentative proposal acknowledges the continued use of journal-box packing properly retained.

As your editors and readers know, a journal box properly packed (as shown in the illustration at the left), should give long and efficient service if the proper amount and grade of oil is used. In fact, full AAR specification thread packing, when correctly applied in a journal box using a solid journal bearing, has many unique advantages over other methods of lubrication. Notable among these are low initial cost, superior oil filtering, and excellent "wicking" capacity.

In 1950 the AAR adopted, after considerable study and consultation with the Institute of Thread Machiners, improved specifications for new journal-box packing. In 1953 our institute voluntarily established even more stringent standards for threads and finished packing. Ever since, our members have applied institute seals on all bales of new packing furnished to the railroads, certifying that this packing meets—indeed, exceeds—AAR specifications.

In a further effort to improve practice among its members, the AAR adopted in March 1955 a new renovated packing specification. Under this specification, worn-out packing must be discarded. Only properly renovated packing, which meets the specification, should be mixed with up to 50 per cent new packing.

All these efforts have substantially improved packing material. AAR specifications for oil and instructions for packing procedures further help to avoid hot boxes, lengthen periods between maintenance, and save money.

Some other current developments promise further improvement of the efficiency and economics of the standard packed boxes. These are (1) controlled clearance bearings developed by the AAR, and (2) an approved journal stop. This economic device is easily installed and holds the packing in proper position one inch below the journal center line. Further, it assures uninterrupted oil feed by preventing excessive journal movement and any rising of the box, assures adequate oil-to-packing saturation ratio by preventing compression of packing, and prevents unseating of the bearing which might cause threads to be trapped. In addition (3), there are other AAR-approved packing containers or retainers which accomplish the same ends as mentioned in (2).

All this attention to journal-box packing obviously means that this method will remain the standard for most railroads for a long time. Of course, there is no substitute for what a prominent railroad officer has called "good housekeeping." It's this attention to proper maintenance that will assure trouble-free service for properly packed solid journal assemblies.

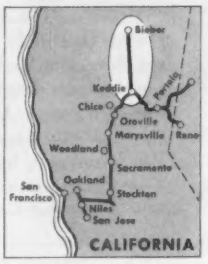
W. R. COMPTON, JR.,
Executive director,
Institute of Thread Machiners.

[*The article to which Mr. Compton refers summarized a report by W. M. Keller, executive vice-chairman and director of research of the AAR Mechanical Division. We think Mr. Compton agrees with Mr. Keller that the railroads cannot tolerate poorly applied loose waste journal box packing. Mr. Compton's suggestions for the alleviation of this condition are welcome, and readers are invited to contribute to a solution of the hot-box problem.* —EDITOR.]

Running on rubber at speeds to 19 mph, Tournatractor has 3 times the speed of a comparable crawler-tractor, and it travels along ties, across tracks, without planking.

Tournatractor pushed several tons of rock over the bank. Says Operator Allen LeCone, "For cleaning a slide on a railroad in a hurry, this Tournatractor can't be beat."

How the Western Pacific cuts delays from slides in the mountains



Western Pacific Railroad Company, San Francisco, Calif., operates 1,528 miles of road in California, Nevada and Utah. This includes a 110-mile secondary main-line from Keddie, Calif., to Bieber which provides, through its connection with the Great Northern, a route to the Pacific Northwest known as the "Inside Gateway".

Because much of the line is benched-in on the side of the mountains, it is subject to earth slides during the rainy season and snow slides in winter. For fast emergency slide-clearing service, one of the units they have depended on since 1949 has been a 19 mph rubber-tired Tournatractor.

Does job of work train

On the job pictured, Tournatractor worked with a Manitowoc shovel and a small scaling crew, trimming a large earth movement which threatened the tracks between Keddie and Moccasin Station. First, a fill of earth or gravel was laid between the rails to protect the roadbed. The slide is then blasted into small fragments which tractor and shovel remove and drop into the valley below.

Prior to adopting "off-track" operation and purchase of necessary equipment, the railroad used a fully-equipped work-train and crew to handle slide-clearing. It often took 2 hours time just to get the work-train onto the main-line. Further time was lost travelling to the site. Train schedules were delayed. Because line is mainly single track, no traffic could go through until the work-train pulled into a siding, which might be several miles away.

Drives on roadbed to next job

Tournatractor, on the other hand, drives to a slide under its own power and is at work within minutes after slide occurs. Straddling the rails, Tournatractor drives over bridges and trestles, through tunnels. As soon as a slide is cleared, revenue traffic can roll with little or no interruption.

Railroad owners like Tournatractor because it doesn't interfere with train schedules, gets to the job sooner, and completes it faster. Besides it saves money. On the Western Pacific, Tournatractor and scaling crew can work for several days for a total cost of less than the expense of calling out a work-train for one day. Because of this saving in money and time, the Western Pacific bought a second Tournatractor.

Tournatractor is a dependable product of the earthmoving subsidiary of Westinghouse Air Brake Company. Ask us for all the facts so you can compare this rubber-tired tool with your present off-track equipment. It can save you time and money.

Tournatractor—Trademark Reg. U.S. Pat. Off. T-701-RR-x

LeTourneau-WESTINGHOUSE Company
Peoria, Illinois
A Subsidiary of Westinghouse Air Brake Company

NERVE CENTER for the UP's radio-equipped pickup and delivery service is the city dispatcher's office in the freight terminal at Omaha. Seven vehicles are now equipped with two-way radio.

AT OMAHA-COUNCIL BLUFFS . . .

Radio Speeds PU&D Service

The Union Pacific has equipped eight PU&D trucks with two-way radio in a move that saves driver time and provides better service to shippers

The Union Pacific is clipping miles off its pickup and delivery operations by using two-way radio in its trucks at Omaha, Neb., and Council Bluffs, Iowa.

Radio links the city dispatcher at Omaha with eight drivers whose vehicles ply the streets. Trucks get around faster, with less "doubling back" over routes. Time spent on telephone check-in calls has been eliminated. And drivers are saving from 45 minutes to an hour a day in telephone time alone.

Service to UP customers in the two cities has improved accordingly. Frequent radio contact between dispatcher and drivers helps assure that "must" freight is moved promptly.

The dispatcher can shift calls among his trucks to meet emergencies or eliminate delays. Orders can be relayed to a driver as he travels near a shipper's place of business—an arrangement that is particularly helpful during the late-afternoon rush. Pickup orders tend to bunch between 3 and 5 p.m.

While the trucks are in service all day, the radio is actually used less during morning delivery hours. It has been helpful, however, in cases of unexpected delay, mechanical difficulty or in the event of a claim situation.

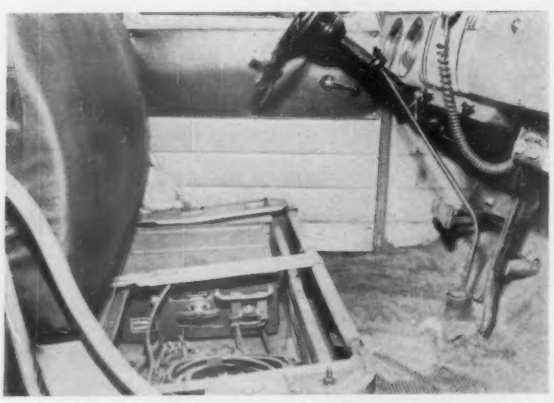
If a radio-equipped truck does stray beyond normal radio range, and the driver can't talk to the dispatcher, another driver midway between the two can relay messages. This truck-to-truck contact is possible since all transmitters and receivers operate on the same frequency.

The mobile radio sets used by the UP are mounted behind or beneath the driver's seat, with microphone, controls and loudspeaker up front within easy reach (see illustration).

While the dispatcher's office is at the Omaha freight terminal, the base station over which he broadcasts is atop a suburban hotel three miles away. Radio equipment was furnished by Motorola, Inc.

WHAT OTHER ROADS ARE DOING

Other roads have been using or testing radio-equipped trucks in PU&D service for some time. For example, the Southern Pacific's subsidiary, Pacific Motor Trucking, recently began a 60-day experiment at San Francisco (*Railway Age*, November 14, 1955, page 8). In the East, the Reading's subsidiary, Reading Transportation Company, has also been using radio in its trucks. The transportation company handles the road's TOFC service around Reading, Pa.



HIDDEN AWAY beneath the driver's seat is the receiver, transmitter and power supply for the radio equipment. Microphone and controls are on the dashboard, within easy reach.

CONSTANT CONTACT is possible between the dispatcher and trucks throughout Omaha and Council Bluffs. Drivers save up to an hour a day by eliminating the old system of check-in by telephone.

(Continued from page 33)

seeking to divide total traffic among them in a manner to obtain the lowest total cost for the nation."

The author points out that there are two available methods for correcting the present uneconomic division of traffic between the railways and other forms of transportation. *One method is that of regulation*—where railway rates are kept on their old, monopolistic "value" basis; and where government intervenes to forbid one form of transportation from competing in a zone where the other is economically superior. *The other method is "coordination by means of rates"*—where charges for transportation are based, primarily, on the costs of the agency doing the hauling. Thus, traffic is attracted, rather than coerced, into the most economic channels.

Professor Coulbois goes on to report that "coordination by regulation" was given a thorough trial in France in the period between the two world wars. In 1934, a "decree law" virtually forbade any further extension of for-hire transportation on the highways. Railways and bus operators were required to reach an understanding with each other, to put an end to paralleling each other on the same routes.

For-hire trucking was limited to operators then in business, and these operators were not permitted to increase the number of trucks in service. Moreover, to discourage long-haul trucking, truckers were required to pay fees per ton-mile—these charges being progressively increased as length of haul increased. This system did not work at all satisfactorily and, in 1949, the policy of "coordination by regulation" was abandoned in favor of "coordination by rate-making." Professor Coulbois believes that the latter alternative is sound—and the only reason that the problem hasn't yet been solved is that this policy, while widely accepted in principle, still has not yet been thoroughly applied.

The railways and the truckers, he says, still seem to have a liking for identical rates—even when their costs are entirely dissimilar. They seem to prefer competing by other means than price. But this identity of rates, he insists, does not give France the benefit of low-cost transportation. Instead, more often, "it assures a substantial profit to the costlier agency."

Economic division of traffic, Professor Coulbois concludes, should be brought about, "not by using authoritarian measures to break the mechanism of the free market, but rather by using the mechanism of the market, i.e., effecting coordination by means of rates" based, primarily, on differences in cost of service.

Tournapulls load themselves in wet clay material. Time studies show they loaded an estimated 5.95 cubic yards in about 1 minute. When push-loaded with a 70 hp tractor, load time was reduced to 35 seconds.

2 Tournapulls deliver 96 cu. yds. hourly

speed railroad construction in Sicily

To improve transportation between the seaport city of Gela and the inland trading center of Caltagirone, the Government of Italy is building a 20-mile railroad which will incorporate the most modern developments. The roadway will be wide and straight, automatic signals will be installed, and the right-of-way well-ballasted. All earthmoving for the important project is being handled by Ditta Fratelli Mario e Giorgio Franchetti of Rome. Their 2 Tournapull-Scrapers are helping move 740,000 cubic yards of earth to level hills, fill valleys, and build bridge approaches. Each of these high-speed, rubber-tired units loads, hauls and spreads 48 cubic yards of sandy clay per hour over hauls which average 3300 feet one-way. They have worked steadily for a year, despite rains from November to March which made the clay very sticky, and hot dry weather from April to October which made it extremely hard.

Performance earns repeat order

"We are so pleased with these first 2 units," says Technical Manager Giorgio Franchetti, "that we have decided to confirm our order for a third Tournapull-Scraper."

"The Tournapulls have performed very well and have given me the greatest satisfaction," says Foreman Eugenio Petronari. "These machines are producing economically the many cubic yards which I demand daily from our operators and earthmoving equipment."

Operator Maganuco Salvatore agrees. "I have been operating many different types of equipment," he says, "but this is the first machine that has produced as many cubic yards per day as the foreman has requested. The Tournapull is easy to operate and maintain. It does not tire me out. It keeps me interested in the job."

Owners around the world are pleased with the dependability and high output of Tournapulls. If you have earth to move to make way for progress, write us for detailed information about these high-speed, electric-control machines.

Tournapull—Trademark Reg. U.S. Pat. Off. DP-413-RR-1bz

LeTourneau-WESTINGHOUSE Company

Peoria, Illinois

A Subsidiary of Westinghouse Air Brake Company

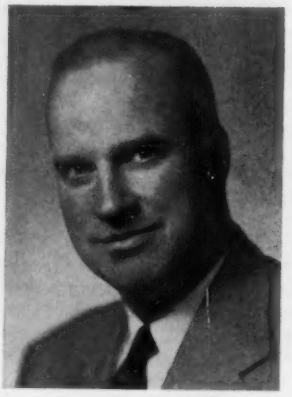
(Continued from page 17)

ant to purchasing agent. **Jacob A. Bobb,** district storekeeper at Reading, Pa., has been named general storekeeper there.

Mr. Clem was born at Philadelphia May 26, 1891, and entered the service of the Reading in 1906 as a clerk in the purchasing department. He became assistant purchasing agent in 1917 and was named purchasing agent in 1934.

Walter A. W. Fister, assistant superintendent motive power and rolling equipment at Reading, has been appointed superintendent motive power and rolling equipment there, succeeding **Howard Hill,** who retired January 1, after 48 years of railroad service. **Harry R. Hanson,** master mechanic in the Philadelphia area, has been promoted to succeed Mr. Fister as assistant superintendent motive power and rolling equipment. **F. G. Fisher,** assistant mechanical engineer at Reading, has been appointed mechanical engineer, succeeding **H. C. Atkinson,** who has retired after 48 years of service. **J. R. Davis,** assistant master mechanic, has been appointed master mechanic, Philadelphia division, succeeding Mr. Hanson.

SOO LINE.—T. J. Ruth, purchasing agent, has been appointed manager—purchases and stores, and **H. L. Griep,** assistant purchasing agent, has become assistant manager—purchases and stores, both at Minneapolis. **G. B. Freesene** has been appointed general storekeeper at Minneapolis,



T. J. Ruth

succeeding **H. E. Worts,** transferred.

B. F. Mason, assistant superintendent, communications, has been appointed superintendent, communications, at Minneapolis.

SPOKANE, PORTLAND & SEATTLE.—A. J. Hunt, assistant to vice-president, has been advanced to assistant vice-president.

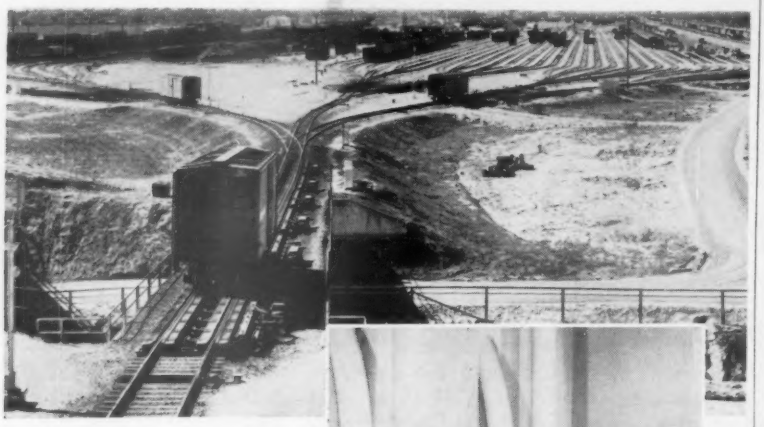
TEXAS & PACIFIC.—B. V. Reynolds, general freight agent at Dallas, has been appointed to the newly created position of freight traffic manager, rates and divisions there. **J. H. Dressen** and **J. B. Palmer,** both general agents, have been named general freight agents, with headquarters as before at San Francisco and Chicago, respectively. Mr. Dressen's successor is **H. J. Flynn,** commercial agent at San Francisco. Effective February 1, Mr. Palmer will be replaced by **R. M. Steiner,** district manager, Perishable Freight Service at Chicago. **N. F. Zarend,** traveling freight agent, has been appointed to the new position of general agent at Detroit.

WABASH.—Randolph Edson has been appointed superintendent, Detroit Terminal division at Detroit, succeeding **John S. Dant,** who retired December 31, 1955, after more than 50 years of service. **P. T. Conlon, Jr.** has been named supervisor of stations at St. Louis.

Charles W. Carter, former city passenger agent at Detroit, as manager of traffic promotion, will head the travel promotion bureau set up in St. Louis January 1 to intensify creative selling and merchandising of passenger service.

OBITUARY

James B. Bailey, 63, operating superintendent of the **Pullman Company,** died January 18.



As caboose passes Englewood Yard checking tower, conductor drops waybills in chute and tower clerk forwards them via KELLY Pneumatic Tubes to yard office.

In Englewood Yard there are 18,000 feet of 6" KELLY tubes (used for waybills) and 5,500 feet of 3" KELLY tubes, used for sending messages.

At right: KELLY Pneumatic Tube sending and receiving station in Englewood Yard office.

KELLY Pneumatic Tubes serve the new Englewood Yard

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